JAN / FEB 1986 *The Grape-growing & Winemaking Review* $3.75

PRACTICAL WINERY

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In The Cellar

Jake Lorenzo

Editor's note: I went to Santa Barbara last month. Hwy 101 from Santa Maria to Santa Barbara was magnificent. There were freeway paintings all over the place. Once I had seen them, I got a mad desire to do one. I decided to do one in my driveway, but I forgot it is on a slant. All the paint ran—I guess freeway paintings are tougher to do than they look!

We were celebrating Paraquat's release from jail. Liz dipped chips into Chuy's hot sauce and kept an eye on Teddy 'Bear' Carducci as he crawled around the floor.

Chuy, standing on a step stool, pounded a nail into the wall above the cash register. "*Cuidado Bear, no mata las cucurachas.* They add to the ambiance."

Bear drooled over a chip and ignored Chuy.

Paraquat talked about his next project. "It's gonna be great, Jake. We're calling it the American Odyssey. Liz and Bear and me are leaving next week. This first trip takes us through twelve states and we'll be doing 16 paintings.

"Each painting will reflect the surroundings. Lots of greens in the rain forests of Washington. Browns and reds in the Painted Desert. I've even worked out a technique that incorporates glitter for Las Vegas."

"We figure it will take three months," said Liz. "We should be back in time to celebrate Bear's first birthday."

I nodded, thinking to myself that if they got caught at half the painting sites and got 30 days for each one, they would be lucky to get back for Bear's second birthday.

Chuy hung up the framed poster I'd brought him for Christmas and stepped back to look. We all looked up at the picture of Marcelo Hernandez sitting on his tractor. "*¿Como se dice vino en Baja Sonoma?* I love it, Jake."

"It's great," said Liz.

Bear burped.

I poured another glass of Zinfandel, RED Zinfandel. "I got that poster in the mail along with a note from the winery that said it was released in recognition of and thanks to the people who bring in the harvest.

"When I called the winery to tell them how much I liked it, Jim McCullough told me he sent out more than three dozen of them to various wine writers and industry publications. I was the only one to respond or mention the poster at all."

"*Pinche* press," said Chuy. "They don't know what's news. This is the first time I ever seen a winery mention that my people had anything to do with making wine. This ain't just news, it's a breakthrough."

Paraquat got up. "We've got to be going. Liz's folks are expecting us." He grabbed Bear and walked to the poster. He stared at Marcelo Hernandez for a long while. Softly he said, "Look at it, Bear. It's part of the big picture."

Liz hugged them both and they left.

"*¿Que dicen sus amigos,* Jake? What the hell's the big picture?"

I got up from my stool and went to the poster. I looked at it long and hard. Then I smiled. "It's something Paraquat taught me about his freeway paintings. The big picture is the heart and soul of the artist. When the artist has done the job right, the finished work is like a tunnel of light that illuminates the spirit of the moment."

"So how do you know if something's part of the big picture or not?"

"That's easy," I said. "If something is truly part of the big picture, it makes you act. It makes you take some action."

¿Cómo se dice vino en Baja Sonoma?

Marcelo Hernandez, Mayordomo, Rhinefarm Vineyards

Se dice "Gundlach-Bundschu", el vino más fino.

GUNDLACH BUNDSCHU

A couple of years ago in these pages, I wrote that the industry should provide technical winemaking and viticultural information in Spanish to facilitate the education and development of Spanish-speaking members of the industry.

It is time to do so. Chuy, myself, and the California Growers Foundation are calling for funding for the Marcelo Hernandez Honorary Chair for bilingual information. We anticipate making a series of bilingual video tapes that will be made available to anyone in the wine industry. We will also produce a series of bilingual pamphlets.

These tapes and pamphlets will cover viticultural practices with emphasis on vineyard theory, growth and pests. They will also explain basic enology techniques, use of equipment and varietal information. Emphasis will be placed on the connection between vine and wine from grape to glass.

The funds should come from wineries based on Jake Lorenzo's Modest Proposal (JLMP). The JLMP says that the next time a wine writer or sales rep from some wine publication comes over for a free lunch, forget about going to some fancy restaurant. Start the coals, heat some tortillas and fire up some carne asada. Toss in some killer diller hot sauce and while that wine writer or sales rep tries to extinguish his burning taste buds, explain the facts of life in the vineyard to him.

Then take all the money you've saved on the lunch and earmark it for the Marcelo Hernandez Honorary Chair. It will make you feel good. Give you something to celebrate. And if you're going to celebrate, what better to drink than some fine *vino de California*?

The paperwork to set up the fund is in motion. Please contact *PRACTICAL WINERY* for information on where to send funds, or watch for details in this space in the next *PRACTICAL WINERY.*

The Grape-growing & Winemaking Review
PRACTICAL WINERY

JANUARY/FEBRUARY 1986 VOLUME VI, NO. 5

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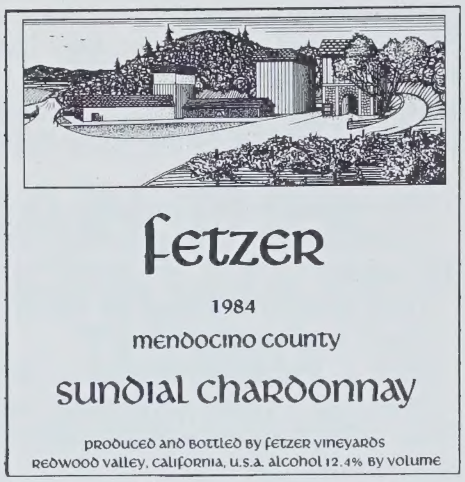
"God in His goodness sent the grape
To cheer both great and small;
Little fools will drink too much
And great fools none at all."

Anonymous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redwood valley, california, u.s.a. alcohol 12.4% by volume

See page 33.

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Cover

Meredyth Vineyards, Middleburg, VA. 12-year-old Leon Millot vines on high cordon trellis with seeded ground cover.
(Photo by Susan Meredyth-Smith)

Letters to the Editor

Dear Editor:

Five of us home winemakers have been making wine for eight years. We've made 14 wines, red and white; they have all turned out just great. But to date, we're still not clear on the correct amounts of SO_2 and total SO_2 in the life of the wine.

Specific questions:

How much at each racking – 30ppm?

Three rackings = 90 ppm? 4 rackings = 120 ppm?

How much at bottling? 30 ppm?

Meta? 4 oz in 1-gal water?

Meta = 1 teaspoon in 1-gal = 22 ppm

How can a home winemaker ballpark total SO_2 at bottling without hi-tech equipment?

HELP! HELP!

Thanks,
Patrick Brennan

Dear Patrick:

When a winemaker does not have the facilities to measure sulfur dioxide in wines, he has to rely on some rules of thumb:

1. Add about 50 ppm of SO_2 at crush unless the grapes show signs of rot which calls for more SO_2 (up to 200 ppm in extreme cases).

2. Add about 30 ppm of SO_2 each time the wine is racked, filtered, bottled, or otherwise exposed to air. Do not add SO_2 after fermentation when a malolactic fermentation is desired but do add it when the ML fermentation is completed. Less SO_2 is needed when wine pH is low (below 3.2) than when it is high (above 3.5).

3. With wines of average acidity and pH, try to keep the total SO_2 to under 200 ppm through to bottling. Some SO_2 is lost via volatilization and some via oxidation. Measured total SO_2 in bottled wines will typically be about ⅔ of the total added during the whole winemaking process. Free SO_2 will range from a few percent of the total SO_2 (with red wines whose pigments combine with SO_2) up to about 40% (with fresh white wines).

4. Since some consumers are adversely affected by free SO_2 levels above about 50 ppm (found mostly in white wines), before adding SO_2 in the later winemaking stages, do some lab trials at various addition levels and have sensory panel members smell and taste the samples. Try to keep the SO_2 below the detection threshold for your sensitive consumers. Remember that the more acidic white wines will give a greater SO_2 sensory effect but these are also the wines that require less SO_2 for effective protection.

5. The usual practice for small scale winemaking is to make up a solution of 5 grams of potassium metabisulfite per 100 ml of water (1 tsp/4 oz). One ml of this solution added to a gallon of wine will give about 7.5 ppm of SO_2. This solution cannot be stored more than a few weeks even in a tightly-capped container. The dry chemicals also lose strength appreciably if stored for years in plastic bags.

Philip F. Jackisch,
author of *Modern Winemaking*

PS: Measuring free SO_2 really isn't a 'high tech' affair: With less than $100 in glassware and reagents and a little practice titrating, anybody can run the Ripper analysis at home. A complete kit with simple instructions is available from the Wine Lab in Napa, CA. This is a much surer way of protecting the substantial investment in grapes, equipment, and labor that goes into home winemaking.

Dear Editor:

I am a serious amateur winemaker living in Vancouver, Canada. I was wondering if you might be able to answer some questions for me. My first question is: What is the best way for an amateur winemaker to start malolactic fermentation in wines? I have tried ordering malolactic starter cultures and mixing them with juice from the must and adding water and apple juice. I have used malolactic nutrients in the starter as well. I found that fermentation stopped, and was difficult to start again (in the starter) by adding sugar solutions.

My second question is: When is the appropriate time to rack Chardonnay wine to achieve a style of wine that is full, rich, and complex with good body? What are the recommended sulphite levels between each racking to achieve this style of Chardonnay?

I subscribe to your magazine and find it quite helpful. Your advice would be greatly appreciated.

Yours Truly,
Mark Plimley

Dear Mark:

You didn't give enough detail on your use of ML cultures for me to pinpoint your problem but I have a suspicion that the cultures you have used may not be in top shape. In my experience, it is not uncommon for liquid yeast cultures shipped from California to distant points to arrive essentially dead. They must be freshly prepared by the supplier and should be shipped to arrive within three days of departure. ML liquid cultures should be refrigerated upon receipt until used.

In late summer, when amateur and professional winemakers usually order cultures, temperatures inside delivery trucks can exceed 100°F and this is enough to do violence to liquid cultures in small bottles. The same thing can happen to ML cultures. Following the supplier's instructions and ordering and using when they are needed are very important.

I have had no problem with freeze-dried ML cultures and use fresh apple juice to build up the culture to about a pint and then use grape juice diluted with an equal amount of water if I need more volume. ML bacteria seem to require nutrients from yeast cells to thrive so if the culture grows slowly, I pitch in a cake of baker's yeast which contains plenty of nutrients.

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Researchers in the eastern U.S., at least, recommend adding a volume of active ML culture equal to 5% of the grape must at the time the must is pressed. For average red wines, this would be at about 10° Brix.

On your second question, I'd have to say that I don't think racking schedules have much to do with richness or body in a Chardonnay wine; those things are mostly determined by how ripe the grapes are at harvest. Acetaldehyde forms in white wines exposed to air and in moderate amounts gives wines a 'faded' smell and flavor and with larger amounts a sherry character.

If one maintains about 20 ppm of free sulphur dioxide in white wine, most (about 99%) of acetaldehyde will be tied up in a non-volatile bisulfite complex and the wine will have a fresher smell and taste than if the free SO_2 gets too low. A Chardonnay aged in oak will lose some fruitiness and its character will become more complex but a winemaker would still want to maintain some free SO_2 to keep acetaldehyde out of the smell and flavor.

Philip F. Jackisch

PRACTICAL WINERY welcomes questions of general interest and will try to answer them.

Dear Jake:

Thanks for spelling my name right in your recent column. Regarding the plot for your first novel, *Kiss Off*, involving the blackmail ring that dresses up underage girls to look older, getting them into wine tastings to seduce vulnerable winemakers, photographing the results and then blackmailing the dupes out of their entire stocks of 1974 Cabernets, use it and I'll sue.

How do you think I get the inside information you credit with making me 'famous for industry gossip'? Once again, art imitates life.

Also, you had it all wrong about Andy Blue. He didn't go to sleep 'reading' *The Book of Lists*, he was writing it.

Sincerely,
Jerry D. Mead

Dear Jake:

Just got back from a case in Hawaii and what a night it was! Missed you there, but professional competition will have us meet one day, I'm sure. At any rate, your column is the only reading of any type which is required for all winery personnel; it helps maintain perspective.

While the cellar crew enjoys your appreciation of their work, I make everyone read it for your insights (e.g., grapes have legs) and artistic bent (I, too, can remember pinstriping a highway to give it more class). But back to the reason for this letter: your neglect of the current rodent nomenclature in the cellars across (and under) America.

Rats have long inhabited our wine cellars and have occasionally done some work on the wines which also inhabit those cellars. Mostly the rats have worked during crush and just cleaned the rest of the year.

Here at Haviland, our wine is made at night by hobbits. We caught a glimpse of the head hobbit and have dubbed him Horace, but we call him Ace. So with these conditions, you can imagine how difficult it was to maintain a stable of rats.

Consequently, we have extended the rodent nomenclature (which is so appropriate) to cover our conditions and more accurately reflect the nature and character of the rodent designate. Since most of my detective work is trying to figure out how to make money in the wine business (wine writers are my prime suspects), I thought I'd write to see if you have discerned more mice, gerbils, etc., in the cellars of America.

Additionally, our 1985 Crush Team wanted to send you an autographed picture of themselves to express their appreciation and support for your appreciation and support of them. So, what with hiring a photographer to take the picture and developing and enlargement, I am getting further and further from figuring out if a winery can make money: my case grows more difficult every day.

If you're not sure about my hobbit story, some day I'll tell you how each fall I cross the misty mountains and procure the magic grapes from a troll who seems to know only one sentence in English: "I want to raise fat babies and watch my vineyards grow." I don't know what the hell it means, either.

Here's looking at you,
George DeJarnatt
Haviland Winery, Washington

?

Questions and opinions wanted. Write to Practical Winery.

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Free Run

Diane Mayfield

An endowment fund for research on wine stability was established in 1985 by Scott Laboratories, Inc., of San Rafael, CA, in memory of Stephen Scott, who died of cancer. The award will go to UC Davis for two years and California State University at Fresno every third year.

The first award has been granted to Roger B. Boulton, associate professor of viticulture and enology and of chemical engineering at UC Davis. Boulton will study "The Kinetics of the Calcium Double Salt Precipitation in Musts" with assistance from graduate student John Cole.

"The calcium double salt procedure is a method of reducing the malic acid content of grape juice by chemically treating the juice before fermentation," says Boulton. "The treatment should be used on both red and white juices from the cool regions of California, Oregon and Washington. The method was developed in Germany, and although details of the procedure are readily available, the success of the treatment is variable."

Boulton believes the crystallization kinetics of the procedure should be studied and clarified to improve the success of the procedure. "The calcium double salt procedure should be the only treatment of the juices when they are high in both pH and malic acid – a common condition in northern areas of the Pacific Coast.

If the malic acid is not reduced by this procedure, bacteria in the juice will convert the malic acid to lactic acid, often with a more dramatic change in acidity and pH than anticipated. The malolactic fermentation under high pH conditions has a high probability of secondary bacterial spoilage in the wines.

"If malolactic fermentation is not conducted in those wines, the acidity will need to be reduced chemically before bottling. Many small wineries are currently doing this by adding calcium carbonate directly to the wine, producing wines which are unstable with respect to calcium tartrate.

"Neither excessive malolactic fermentation nor the calcium instability is desirable in winemaking and the alternative treatment is not well understood." He plans to address the double salt precipitation method in the study so that the instabilities of excessive malolactic and calcium tartrate can be prevented.

* * *

Now that the hectic holiday season is over, there's time to relax with a good book. Following are some books of general interest to wine aficionados everywhere, professionally involved or otherwise.

From Vines to Wines
by Jeff Cox
Harper & Row, New York, 253 pp., $18.95

Aptly subtitled *The Complete, Step-by-Step Guide to Growing Grapes in Your Backyard and Making Your Own Wine*, this is the book for anyone who has ever wanted to do same. Cox, an editor and columnist for *Organic Gardening*, describes in specific detail the intricacies involved in every step of the process. He starts by matching grape variety to climate, continues through planting, pruning, and harvest, moves on to fermentation, filtering and fining, and bottling, and concludes with cellaring and a sensory evaluation of wines.

Along the way, Cox points out regional, climatic, and varietal variations that serve as problem prevention as well as guides to individual situations. For instance, if you have a hillside lot in Pasadena, CA, that you are hoping to plant to Gewurztraminer, check the table on heat summations in various California towns and cities. You'll find that the area around Pasadena is rated Region IV. Then check the table on *vinifera* in California – habits and regional suitability. Gewurztraminer, it turns out, grows best in Region I. Better turn your thoughts toward producing Barbera or Zinfandel.

Also in the problem-prevention category are sections covering the relationship of your vine-training system to pruning, pest control strategies, a discussion on how to make consistently fine wine, and a guide to ageing. Troubleshooting sections on stuck fermentation and wine disorders are available if something *does* go wrong.

Appendices include a home winemaker's record book, sources for supplies and grapevines, and methods for spotting and controlling grape pests.

The author's clear, precise illustrations further clarify his succinct explanations. One illustration, for instance, shows how to trim bare-rooted stock before planting.

From Vines to Wines, in short, provides answers to most questions that a home winemaker is likely to ask. This book is highly recommended for anyone interested in drinking the fruit of their labor.

Lafite
by Cyril Ray
Christie's Catalogue Dept., 21-24 44th Ave, Long Island, NY 11101, 156 pp., $16.00 semi-glazed cover, $20.00 clothbound

Lafite is the story of the wine and the people who make it. The book contains fascinating historical detail about the region and the château itself, the family and the traditional rivalry with its nearest neighbor, Château Mouton-Rothschild, owned by Baron Philippe. Château Lafite itself stands in the Médoc region of Bordeaux and is now associated almost exclusively with the celebrated Rothschild family, who purchased it in the 1860s.

First published in 1968 by Peter Davies, and by Christie's in 1978, the latest edition of *Lafite* has been thoroughly revised, updated and expanded. Edmund Penning-Rowsell has added a postscript and, in an appendix, with James Suckling and Michael Broadbent, reports on three major tastings. In addition to the vintage reports – every year from 1847 to 1984 – there is a list of recent prices commanded in the sales room for 110 vintages of Lafite from 1806.

The book is generously illustrated and includes views of the exterior of the château, the vineyards, *chais*, library of old wines, principal rooms; members of the family and the Rothschild family tree; of the *maî tre de chai* and other personalities, and a facsimile of the original 1855 classification.

Cyril Ray is a former wine correspondent of *The Observer* and *Punch* magazine, and was editor of the *Compleat Imbiber* annuals. His books on wine include *Mouton-Rothschild, Bollinger, The Wines of Italy, Cognac* and *Robert Mondavi of the Napa Valley*. Ray has, in this latest edition of *Lafite*, added to his impressive achievements a book of clarity, insight and profound respect for his subject.

The Essential Wine Book
by Oz Clarke
Viking, New York, 300 pp., $20.00

Oz Clarke, wine correspondent for London's *Sunday Express*, believes that the enjoyment of wine is often marred by confusion, mystery, and elitism. Combining his radically down-to-earth approach with his expertise and highly readable prose, Clarke explores, in *The Essential Wine Book*, the wines of the world, including North and South America, Europe, South Africa, Australia, and New Zealand, with emphasis upon the flavors and styles that bring the most drinking pleasure to the consumer. Designed for wine drinkers at every level of experience, this book presents Clarke's lively discussions on the wines of each region accompanied by 750 full-color photographs, maps, and line drawings, plus graphs and charts for quick reference.

The Essential Wine Book begins with a discussion of several major topics of importance to the modern wine drinker: the main wine 'styles' of the world (from burgundies and clarets to champagnes and sweet dessert wines); wine-tasting ("All that is demanded of us is that we 'think while we drink'. That, quite simply, is the essence of wine-tasting," says Clarke); and how wine is made–from fermentation to maturation.

The core of the book consists of sections on each wine-producing country in the world. Chapters within each section focus on various regions within the country and are organized in three parts:

The General Picture explains the regional history and countryside, the area's style and image, and grape varieties and wine styles. Also included are maps of the area and photographs that capture the essential character of the vineyards and landscape.

The Important Details explains the various classifications and organization of an area, the facts on the label, the best vintages, and what the wines taste like and how, when, and with what food to best enjoy them.

Consumer Information summarizes Clarke's opinions on value and price and indicates how widely available wines are outside their region of origin. Clarke also includes a consumer checklist for specific wines that lists their quality, price, value, and taste in simple terms.

Oz Clarke's candid observations, personal fascination with many little-known wines, frank opinions about certain 'great names' in wine, and, of course, his passion for wine make *The Essential Wine Book* much more than a comprehensive handbook. It becomes for the reader an adventure in discovery as Clarke reveals startling facts ("Australia has the highest annual per capita wine consumption of any English-speaking nation" and "Turkey's vineyard land is the fifth largest in the world"), the origins and true meanings of such words as 'champagne', 'burgundy', and 'sherry', and his personal preferences and disappointments.

Bordeaux: The Definitive Guide for the Wines Produced Since 1961.
by Robert M. Parker, Jr.
Simon & Shuster, New York, 542 pp, $18.95

Written by the editor/publisher of *The Wine Advocate*, a bimonthly wine newsletter, *Bordeaux* is a refreshingly informed look at the world's most prestigious wine region. The first printing of 30,000 copies was completely sold out two weeks after release.

We recently had an opportunity to interview Parker after reading his book and asked, "Why would people in the wine industry purchase *Bordeaux*?" He answered, without hesitation, "I'm confident that a person in the California wine industry drinks Bordeaux. The great wines of Bordeaux are the quality benchmark for wines made from Cabernet Sauvignon and Merlot. The best California winemakers know the classics and constantly compare their style to those of Bordeaux. The book discusses châteaux styles and which ones are producing the best wines.

"I've found that the best winemakers know the taste of the great classics. I'll use Paul Draper, winemaker at Ridge Vineyards, Cupertino, CA, as an example. Paul is an excellent winemaker. I have mistaken Ridge Montebello Cabernet Sauvignon for a Pauillac in comparative tastings. I think part of Draper's success has to do with his knowledge of the great Bordeaux wines. He compares his wines to those of Bordeaux, he has visited and worked with the people in Bordeaux, and knows what they are doing to make their wine. I am always skeptical of a person in the wine business who does not taste the best wines of the world.

"My book is a contemporary consumer's guide. It tells who is doing what, why some are not doing so well as they should, and why some underrated properties should be elevated above their current position in the classification of 1855. Many books have been written about Bordeaux by people in the trade. Wine industry people should learn about Bordeaux from an outside, objective observer."

100% varietal Cabernet Sauvignons and Merlots may always be produced, but the trend is to use these grapes in concert. Parker provides the percentage of each grape variety used in the blends of every major château and describes their wines for the vintages 1961–1984.

Bordeaux should be in every wine library. It will replace Broadbent's *The Great Vintage Wine Book* as the best reference on the wines of Bordeaux. After a few years, evidence of worn and dog-eared pages will be convincing proof of the book's usefulness.

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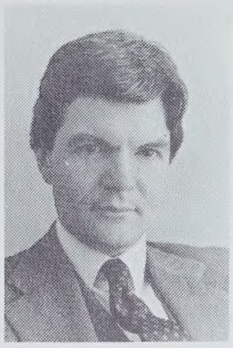

The Wine Lawyer

R. Corbin Houchins

Is A Blush Becoming?

We are accustomed to thinking of words as being proprietary or not, as if ownership of a trademark were as determined as ownership of land. In fact, companies obtain ownership interests in words only by a difficult route and then only in a limited sense.

It's probably a good thing that words are not salable and ownable like ordinary property. I'd hate to wake up some morning and hear that some conglomerate had just purchased 'on the other hand' and would henceforth be charging a royalty for its use.

Limited Monopolies

Brand names, titles and descriptors are not subject to copyright at all, so there is no question of getting an absolute monopoly, as one can for a time in a literary work made up of words. Ownership of single words or groups too small to be literary works is possible only in two senses, broadly speaking:

1) One has some rights, varying by state, to the commercial exploitation of one's celebrated name, so probably Pat Paulsen is the only person who would be well advised to use that name on a wine.

2) If one uses a word that is not simply the generic name of the goods (say, a brand name) to identify one's goods in trade and differentiate them from the goods of others, and the brand name acquires that power in the minds of the buying public, then for that category of goods one may have the exclusive right to the brand.

It is that second sense that makes up most of the law of trademarks applicable to wine.

Entrances and Exits

The oversimplified description above describes the way words move from public domain into the realm of trademarks. Movement the other way is also possible. While both Aspirin and Thermos began as trademarks, the words became so commonly used to describe the goods themselves, rather than the manufacturer of the goods, that they became generic.

Thermos remains a good mark for other products, but anyone can call his vacuum bottle a thermos; the Bayer company has lost out on aspirin altogether in the United States, but in countries where the term did not become generic it is still a good mark for their brand of headache tablet.

Descriptors Are Out

Most brand names begin as coined words, not found in a dictionary, or as a dictionary word applied in a way unrelated to its common meaning.

Under current trademark law, a term that is merely the generic description of the goods probably can never become a protected mark. In a previous column I noted that 'beer' could not be protected, although the distinctive typeface and white can of a leading 'brand' of generic beer could theoretically become a mark for the producer, who is named on the package.

Suggestions Are In, Sort Of

Words that are suggestive, however, rather than merely descriptive, are a different story. 'Hearty', for instance, began as a fanciful but suggestive use of the word when associated with wine, but it was used so extensively by one winery to identify its burgundy that it came to acquire the requisite power in the public mind and is currently a good mark (when used in conjunction with 'Burgundy'), signifying E & J Gallo Winery and no other as the source of the product.

There was probably a time when, if a number of producers had persistently described their full-bodied jug reds as 'hearty', the word might have become so descriptive of a type of wine that it could not have acquired trademark significance.

No Points for First

An interesting situation now exists with respect to the use of the term 'blush' to describe pale pink wine. The estimable wine writer, Jerry Mead, has stated that he was the first to describe a pink wine as a blush wine, and I have no doubt it is so. However, as indicated above, his copyright as an author in his writings would not provide him any monopoly on that use of the word (not that he has claimed any, to be sure), either for himself or for anyone to whom he may pass the idea along.

More importantly, the first winery to begin describing its pale pink wine as a blush wine acquires no exclusive rights thereby. Descriptive use is not the kind of use from which trademarks arise. A trademark must identify the source, not describe the product.

Ambiguities

If blush is regarded by wine consumers as a color, there is very little likelihood of its becoming a good mark.

But is blush a color, or is it a physiological phenomenon of animal behavior of which a wine is incapable and which therefore merely suggests, rather than describes, the color? Of such questions are lawsuits made, and therein lies an opportunity for

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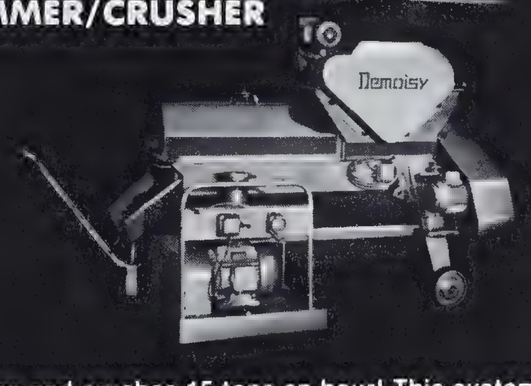

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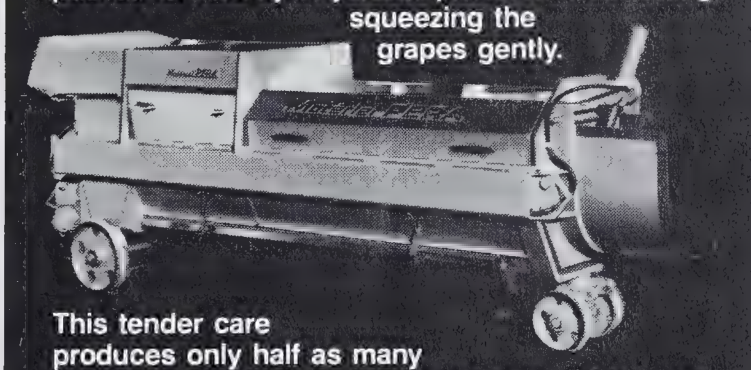

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Mill Creek Vineyards of Healdsburg, CA, which claims the term as a proprietary word.

A Program

What if you wanted to adopt as a proprietary name a term that may be descriptive but is arguably fanciful as applied to wine? Your agenda might include:

1) Register the word as a trademark. A trademark registration doesn't mean it is really a trademark, any more than a mining claim means there's gold in the ground, but a registration, even with a state or on the supplemental federal register, can act like a 'No Trespassing' sign. Use the legally meaningless 'TM' for that purpose while federal registration is pending. (By the way, sometimes adding the word 'brand' after a mark helps make clear that the mark does not describe the product, but the word 'brand' is not magic; it won't make a descriptor into a trademark.)

2) Threaten everyone else who uses the term with a lawsuit. Few wineries will be interested in paying for a judicial decision on the descriptive/suggestive issue as the price of vindicating their right to use a term for which substitutes are available.

3) Use the word in as arbitrary and nondescriptive a way as you can. Make it part of your bottling name. Apply it to a line of wines rather than to one product. If it means white or light, use it on a great inky monster. If it means pink, never use it on a rosé.

4) Constantly remind the press (as do Coca-Cola and Xerox) that your mark is not a descriptive or generic term.

5) Advertise your winery, identified by the mark, in ads that include no specific product, or at least which apply the word to no specific product.

Even then you are likely to lose to an immediate challenge. On the other hand, if you can forestall challenge and become the only person in the industry using a suggestive but arguably nondescriptive word, there is a substantial chance that it will become your trademark in time.

A Little Extra

The 'blush' case does not illustrate all those steps, but it does suggest another agenda item: Try to collect some royalties through trademark licenses. This is a tempting course of action, with one good argument going for it in addition to the revenue. By offering a relatively cheap way to use the term without litigation, you may be able to induce others to recognize the term as your mark, since anyone who signs a license agreement with a standard no-contest clause promises not to disturb your claim in the future.

A license would probably be appealing to a small producer for whom a per-case royalty doesn't come to many dollars. A large

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producer, who presumably could afford to roll over you in court, may prefer a modest-to-it settlement to even a very small chance of a monkey wrench in a marketing plan (not to mention the warehouses of labeled product). Speculation about the confidential settlement between Mill Creek Vineyards and Seagram regarding Taylor Cellars blush wines tends to view it as cost-effective purchase of peace.

Drawbacks

There are, however, serious pitfalls in the royalty approach for arguably descriptive marks. First, any no-contest clause will be subject to judicial scrutiny in light of the public interest in limiting restrictions on words to legitimate marks. Such clauses are regularly upheld, but they are not beyond challenge.

Second, you have to keep quality control of the product. Boilerplate agreement provisions on samples, testing, etc., must be followed through in practice. Otherwise, you may be found to have allowed a term to come into common use without the requisite significance of origin.

Third, and least obviously, the licensed use must be nondescriptive. If you were trying to establish an arguably descriptive term as a mark, it would do you no good to enter into license agreements, with or without no-contest clauses, allowing others to use the mark to describe their wine. You would have to obtain explicit agreement not to use the word descriptively—as everyone has the right to do without a license until such time as the word become so associated with a single source as to become a trademark.

An Odd Thought

The question of the nature of license agreements raises an interesting speculation. Since the terms of the Mill Creek-Seagram agreement are confidential, one can only guess, but if it treats the word 'blush' only as a trademark, it might imply that the licensee (like all non-signers) is left free to use 'blush' descriptively without royalty.

Moreover, defending one's descriptive use of a word would not necessarily constitute contesting another's rights in it as a mark and therefore might not violate a no-contest clause. Thus, it is difficult to draw useful conclusions from reports of recognition of blush as a mark by a major company.

Conclusions

The entire descriptive/suggestive/fanciful categorization in trademark law is fairly esoteric and provides relatively little straightforward guidance. Nevertheless, a few conclusions are possible:

If 'blush' licensees in effect buy their peace to continue using the term to describe their blush-colored wines, the descriptive nature of the word will persist, and it will probably not become a trademark. On the other hand, if only one winery ends up using the term and consumers begin to assume that a wine with 'blush' on the label comes only from a certain winery (or if use by licensees is strictly nondescriptive and limited to producers making wine to the licensor's quality control standards), it will very likely become a trademark via the Hearty Burgundy route.

If you are interested in 'crisp' or some other descriptor as a mark or part of a mark, get some specific legal advice before proceeding, and expect a hard row in any case.

Finally, as with liberty, the price of keeping control of a mark that can be used descriptively is (to paraphrase Jefferson) eternal snooping. If popular usage gets away from you, as it did with Aspirin and Thermos, the word you worked so hard to wrest out of the public domain will go right back in.

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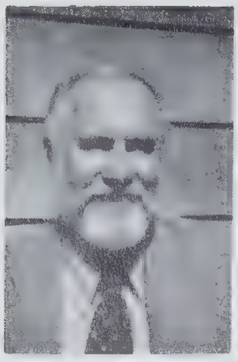

Winery, Water & Waste

D.R. Storm, Ph.D., P.E.

Winery Odors: Achieving 24-Hour Protection, Part II

This second installment in a two-part series will identify methods by which odors can be modified or eliminated entirely. As always, the best offense is often a good defense: avoiding the production of nuisance odors in the first place by meticulous attention and management at the source is ideally the only permanent solution.

Band-aid odor suppression measures may cut down on the frequency of complaints, but the long-term cure has to be better preventive maintenance (PM) and a closer scrutiny of ideal operating parameters for the wastewater treatment system.

Odor Sources

Odor complaints for wineries, in my experience, can be traced almost exclusively to some segment of the wastewater system. Surface odor emission rates (SOER) from open bodies of water are the most consistent sources of objectionable odors. My *PW* column (Nov./Dec. 1984) suggested that for wineries with wastewater systems on site, that a sensible location of such works with respect to the winery and potential odor targets and/or neighbors can go a long way toward mitigating periodic complaints.

If topography and prevailing winds continually work to effectively transport nuisance odors at your winery, then the suggestions offered in the following subsections should be filed in a location for ready reference when the telephone begins its electronic litany from downwind complainers.

In addition to the free water surfaces in treatment and storage ponds, pumping station wet-wells, sumps and sewers with flat grades and sluggish flows which vent at manholes can also create odors within a winery. These sources, of generally less magnitude and shorter duration than the open ponds, are an annoyance to winery personnel and visitors, if tours and tasting room routes pass the buried odor emitter.

These 'point source' problems are usually easy to solve and the technology for suppressing pump station wet-well odors is quite highly developed. Hydrogen sulfide and mercaptans are usually the culprits that are most offensive to the human nose. A listing of the most common offensive odors with those noted that might originate with winery process operations are in Table 1.

TABLE 1
COMMON OFFENSIVE ODORS
(After Ref. 1)

Compound	Chemical Constituency	Odor Quality
Amines	CH_3NH_2, $(CH_3)_3N$	Fishy
Ammonia	NH_3	Ammoniacal
Diamines	$NH_2(CH_2)_4NH_2$, $NH_2(CH_2)_5NH_2$	Decayed flesh
Hydrogen sulfide*	H_2S	Rotten eggs
Mercaptans*	CH_3SH, $CH_3(CH_2)_3SH$	Skunk
Organic sulfides*	$(CH_3)_2S$, CH_3SSCH_3	Rotten cabbage
Skatole	$C_8H_5NHCH_3$	Fecal

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The evolution of hydrogen sulfide (H_2S) from waste treatment ponds is the most likely source of odors and probably the easiest to suppress. Failure to remove solids from settling ponds, solids overloading, and inefficient or insufficient oxygen transfer in aerobic reactors (ponds, lagoons and tanks) can all be responsible for a septic condition and the generation of nuisance odors.

The introduction of commercially-available hydrogen peroxide (H_2O_2) to these 'sick' systems can bring about dramatic improvement in a matter of hours. (A *PW* reader and winery owner in Virginia had such a pond problem which he related to me by telephone on the eve of a special tasting and open house. Subsequently a follow-up letter reported that the H_2O_2 was successful in eliminating the odors at the troublesome pond.) The chemical process is simple:

$$H_2S + H_2O_2 \xrightarrow[\text{neutral}]{\text{acidic or}} 2H_2O + \text{elemental sulfur}$$

or

$$H_2S + H_2O_2 \xrightarrow{\text{alkaline}} H_2O + \text{sulfates}$$

The dissociation of hydrogen peroxide in water in the absence of H_2S produces oxygen and water, with the oxygen remaining in solution as dissolved oxygen (D.O.).

Many wineries have found their odor problems to be highly seasonal, often associated with the production of gross lees and the higher ambient temperatures generally associated with the fall season of the year. Because the environment that favors rapid sulfate reduction by several species of anaerobic bacteria

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is in the range of 60°-80°F, the high temperature wash water from daily start-up and shut-down of winery bottling lines can often be the catalyst for a rash of odor complaints, all other odor production (low-dissolved oxygen and high solids loading) factors existing simultaneously.

H_2O_2 is such a strong oxidant that it should be used with caution and only handled by responsible winery personnel who have been trained to observe the manufacturer's safety precautions. (As a minimum, protective clothing in the form of rubber gloves, goggles, rubber boots and a rubber rain suit should be worn.) A volume of clean rinse water should be kept nearby in case the handler's skin or eyes somehow become contaminated. Hydrogen peroxide is prepared commercially in three dilutions (35, 50 and 70% H_2O_2). The 35% solution still demands respect, while the 50 or 70% solutions can readily burn a hole in your best pair of dress shoes and produce serious skin burns.

Other chemicals have been employed to suppress hydrogen sulfide odors with varying degrees of success and economic impact. A proprietary product called 'H₂S Control' made by Sierra Chemical Co. of West Sacramento, CA, is safer to use than H_2O_2 and is less expensive than hydrogen peroxide.(2) Chlorine, chlorine dioxide, potassium permanganate and ozone have been used in municipal waste treatment plants.(3,4)

Industrial perfumes such as 'Nutroleum-alpha', a brand name, have also been used to control and mask odors; however, the industrial perfume fragrances that I have had occasion to encounter are only slightly less offensive than the nuisance odor. Current industrial fragrances available (seriously) are: cherry, tutti-frutti, and lavender.(2)

Other methods for mitigating odors include physical and landscape barriers that might augment near-surface boundary layer turbulence and cause vertical dilution of odors. Large fans have also been employed to break up stagnant, near-surface boundary layers containing nuisance odors. They can be rented generally throughout the frost-vulnerable areas of California for seasonal protection of orchards and vines and come equipped with fan guards and close-coupled diesel or gasoline motors.(5) (Also see p.49, *PW* Nov./Dec. 1985, for source of wind machines in California.)

One of the most imaginative schemes for odor control is claimed by Capricorn Chemical Corp. of Secaucus, NJ. They produce what is called a 'floating ball blanket' with which the offending tank or pond is covered. The spherical geometry and available variable diameter of the balls that make up the blanket, claims the manufacturer, can cover 91% of the surface. Two-layer and three-layer ball blankets can further reduce surface odor emissions.

The balls can be fabricated from polypropylene, polyethylene or polypropylene with carbon black for installations exposed to sunlight and ultraviolet radiation. An interesting use is claimed for the versatile balls in filling ullage in tank trucks to prevent surging and agitation of beverages (wine?) during transport. There is no mention made of the 'ball screen' that must be required at the truck terminus to salvage the little devils when the tank trucks' contents are discharged.

Air Pollution Control Regulations

While an odorant is not necessarily a pollutant, almost all state air pollution control laws have provisions for the control of nuisance odors at the source. In this era of public enlightenment about rights to pure air, uninhibited solar energy and pure water, the downwind odor target is more likely to call the nearest Air Pollution Control Officer than he is the offending winery. Please check with the air pollution control officer near your winery to know for a certainty what specific laws govern odor emissions from your facility. It would be wise, therefore, to have an odor abatement plan ready for implementation in case your isolated agrarian zone someday becomes encroached upon by a residential subdivision or country inn.

Behavioral Fragrances

During my research for this column, I uncovered some related literature on human response to odors and fragrances. Words like 'aroma therapy' and the use of odors for appetite suppressors may not be too far off as accepted scientific approaches to a healthier mind and body. It is a fascinating subject and for readers interested in more odor lore, I recommend a *Los Angeles Times* story entitled "You Are What You Smell," by Betty Goodwin. It was also published in the *San Francisco Chronicle* as a special feature in early September 1985.

David Storm is a consulting sanitary engineer and owner of Winters Winery, Winters, CA.

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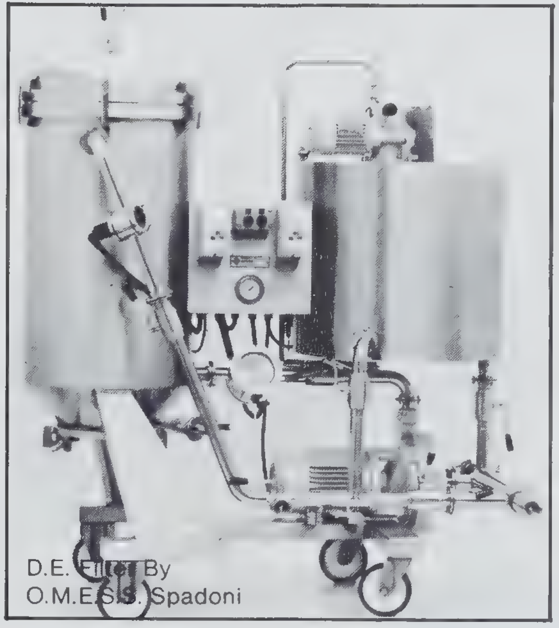

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The Wine Retailer

Stan Hock

California's Wine Retail Market: On the Upswing?

The California wine industry has taken it on the chin in recent years, bruised by its own miscalculations and a series of unforeseeable developments out in the real world, a place many winemakers rarely visit. At the risk of oversimplifying, I would identify the problems afflicting California wine as follows.

Overproduction/overpricing When a boom market erupts in a particular commodity, as happened with California wine in the 1970s, two things occur almost instantaneously: prices jump sharply, and a horde of gold diggers flock to the scene, eager to grab a piece of the action. This is no less true of Napa Valley than of Silicon Valley, and it is not surprising that, by the early 1980s, what appeared to be a limitless market for California wine should have been saturated, even numbed into remission, by an avalanche of supply.

Yet, until recently, prices continued to escalate, and even now they have not really dropped, merely stabilized. In conjunction with the ferocious competition from French and Italian producers and a factor we might dub 'consumer overload'—the wine shopper's inability to cope with an ever-proliferating array of brands and styles—the overproduction and overpricing of California wine has had a very sobering, if not exactly disastrous, effect on the California wine industry.

Competition The long-term bullishness of the dollar, only now abating, caused a sea of attractively-priced imported wine to flow into this country, further depressing the market for California wine. The eye of this imported wine storm was the incredible hoopla surrounding the 1982 red Bordeaux, undoubtedly the most publicized vintage of wine in history.

Dollars which Americans might otherwise have spent on California wine flowed, via retailers, distributors and importers, straight into the pockets of the grinning Bordelais, who are nothing if not skillful exploiters of favorable circumstances. This state of affairs was particularly hurtful to California vintners in their developing out-of-state markets where, after much struggle to overcome an entrenched bias toward French wine, Californians had finally gained a foothold.

A decline in consumption I don't have any data to prove it, but my retailer's instincts tell me that the greying of the baby-boom generation—of which I am an underachieving member—also has something to do with the slump in California wine sales. During the 1970s, many of the people fueling the wine boom were single or newly married. Unencumbered by children and mortgages, they had discretionary income with which to indulge a then-trendy new hobby—the cultivation of a wine habit. As these folks settled down, bought houses and started families, they suddenly had less money available to spend on wine. If you have to choose between new shoes for little Johnny and a bottle of $15 Chardonnay, it's probably the Chardonnay that goes, at least for most people.

Second, it seems apparent that health/fitness consciousness, spreading through the population like a modern-day Blob, has had a negative effect on wine sales. Despite its romantic image, wine—no less guiltily than beer or spirits—contains the demon alcohol and dreaded calories (besides, if you drink too much of it with dinner, you fall asleep before Hill Street Blues or Miami Vice comes on).

This anti-alcohol sentiment, which the health/fitness craze seemed to revive—we baby-boomers can't bear the thought of ageing or getting sick—has found a darker voice in the so-called 'moderation movement'. An outgrowth of the Mothers Against Drunk Driving campaign that has galvanized a national debate about alcohol abuse, the moderation movement takes many forms. Some are laudable (an effort to get tougher drunk-driving laws), but others smack of prohibitionism (a drive to ban wine and beer advertising on television). Whatever its true colors, the unifying theme of this broad coalition movement is that 'alcohol is a scourge on our house', and the propagation of this view has had a chilling effect on the beverage alcohol industry and may be slowly eroding its traditional markets.

Amidst the gloom this analysis may engender, however, there are definitely some reasons for California wineries to be upbeat as they assess their prospects in the second half of this decade.

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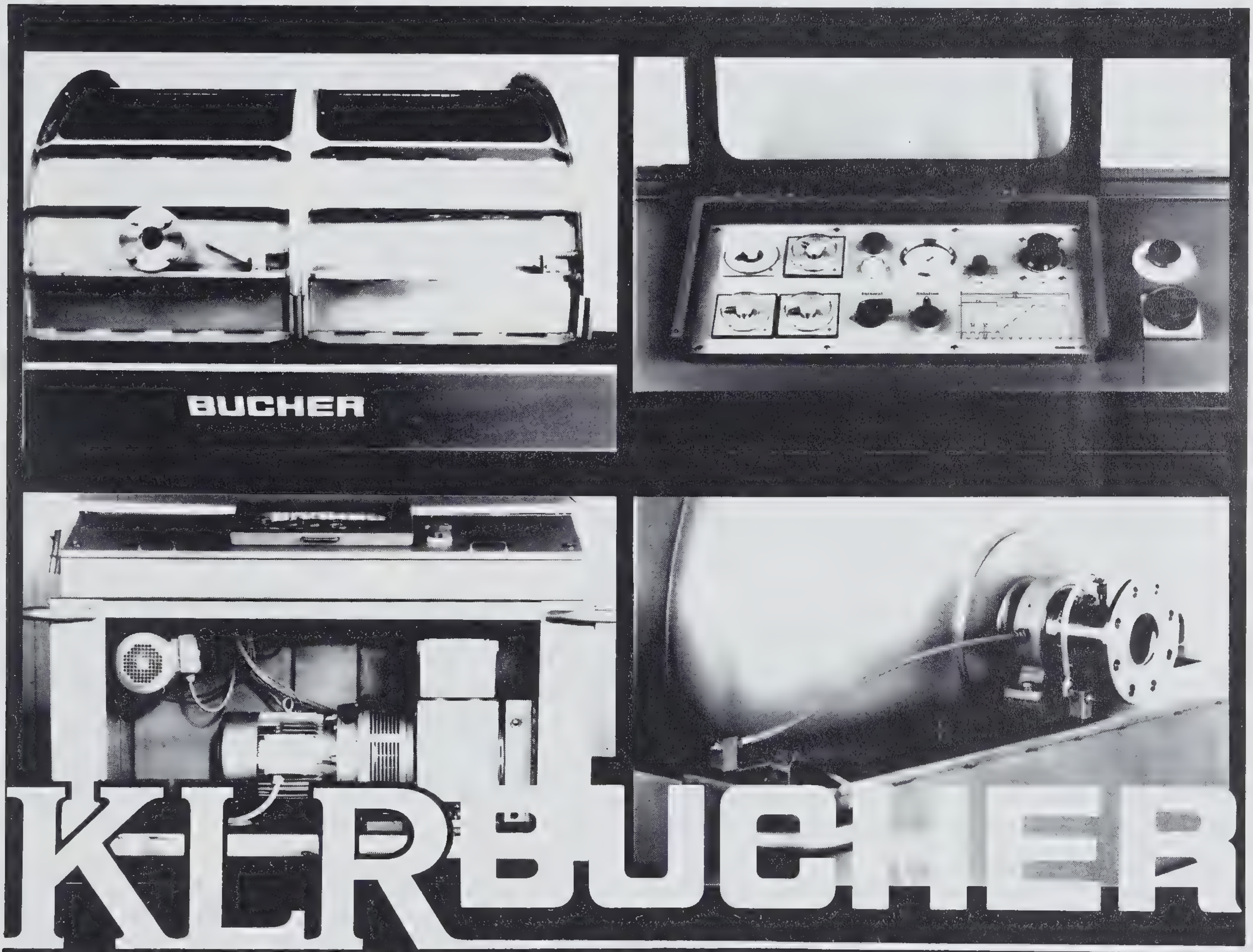
First of all, the dollar is finally being brought to heel, which will drive imported wine prices up. Specifically, the ludicrous escalation in red Bordeaux prices, veiled for years by the strong dollar and rationalized by a succession of excellent, much-hyped vintages, will now be fully revealed, further alienating American buyers who have difficulty understanding how opening prices for the 1983 and 1984 classified growths can be so much higher than they were for the vintage-of-the-century 1982s.

Second, after poor-to-mediocre years in 1981-83, California winemakers had two good vintages to work with in 1984 and 1985 and, with a glut of bottled wine from previous harvests still on hand, they also have reason to hold their prices steady. In short, there should be a good supply of high-quality, moderately-priced California wine on the market for years to come.

In addition, it's likely that the trials of the past few years have had a maturing effect on what is, after all, still a very young wine industry. Producers seem to be curbing their wilder experimental tendencies of years past, avoiding the oscillation between wines of monster extract, tannin and alcohol, and those vapid, emasculated offerings masquerading as 'food wines'.

Competing with—and getting clobbered by—the wily French has also elicited a heretofore unseen combativeness on the part of the Californians. Growers and producers are now lobbying vigorously, in domestic and international forums, for fair play (some might call it protectionism) for California wine. Organizing to fight restrictive trade barriers and the alleged dumping of foreign wines in the U.S. at below-production costs (a result of governments subsidizing their wine industries), the California wine industry is learning to play hardball on the international scene. In the process, it is shedding some baby fat and acknowledging that it takes more than putting a good wine in the bottle to be successful.

As we all know from our own lives, it's often feast or famine, boom or bust. California wine now seems poised on the cusp of another gold rush. Maybe those Bordeaux guys should crack open a few cases of Zinfandel and give it some thought.



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Price Waterhouse Wine Industry Survey

How financially healthy is the California wine industry? To answer this question and to evaluate wine industry trends, all California wineries are invited to participate in the third annual Price Waterhouse Wine Survey in 1986. The survey looks at financial results, production statistics, marketing trends, and compensation levels of California wineries. The survey report includes overall averages of those wineries responding and additional ratios and averages based on the size of the winery.

Price Waterhouse developed the Wine Survey as a service to the industry to provide an additional tool and point of reference to use in evaluation and planning. Established wineries can utilize the survey report in evaluating their past performance and present position. Those planning for expansion or starting new wineries may use the statistics as a point of reference and a basis for evaluating the soundness of their projections and assumptions.

The survey results highlight the many differences to be expected as a winery grows and increases its production. The changes in product mix, means of distribution, source of grapes, average revenue/case, average retail bottle price, level of management staff, size of facility, and the relationship of marketing expense to means of distribution and revenue/case provide insight on how the various segments of the wine industry are operating.

Significant differences from the averages in the Wine Survey Report may represent a reflection of the unique strategy of a particular winery and its age or stage of development. Or they may represent an area where a winery enjoys some particular advantage, or highlight an area that requires further review to determine if there is a need for corrective action.

As an example, in reviewing the Survey results, certain relationships make sense and would be expected. Larger wineries would be expected to be selling a smaller proportion of their wine directly at retail and a greater proportion through distributors/wholesalers; this would be expected to result in a lower dollar amount of revenue per case and, as the winery increases in size, a lower cost for marketing per case. The change in dollar revenue per case also reflects an expected increase in the amount of table wine produced as the size of a winery increases, as well as a decrease in the average retail price per bottle for table and premium wines.

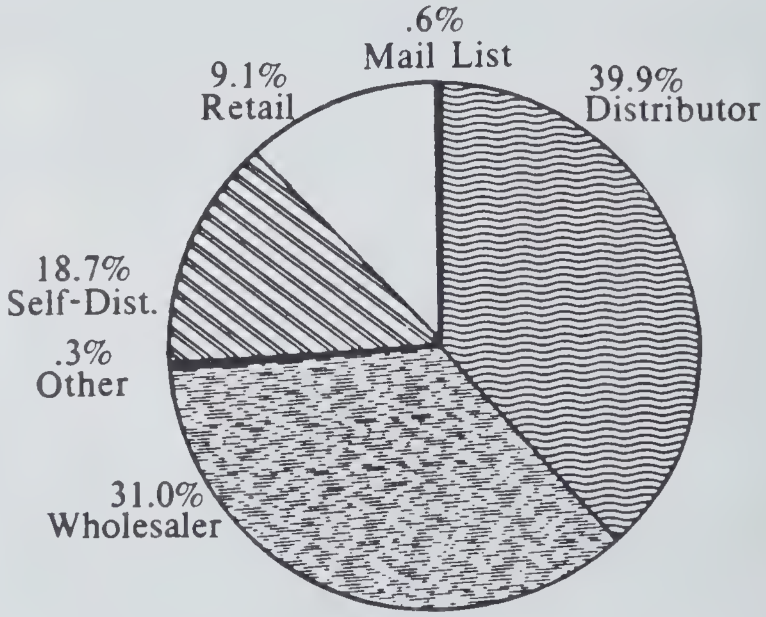
These statistics reflect a strategy: promotion through distributors, price concessions, expansion through the addition of additional 'products' or 'labels' which may not command the same premium as other labels/varieties produced.

This could be a sound strategy reflecting a more efficient utilization of fixed assets (decreasing lease/rental expense per case, investment in assets—dollar/case, and in square feet of 'plant'/case as a winery increases in size). This would also, presumably, be reflected in a healthier bottom line.

Approximately 10% of the wineries in California responded to the 1984 and 1985 wine surveys. Wineries participating have represented the full spectrum of the industry from start-ups producing a few hundred cases/year to major wineries producing in excess of one million cases/year and marketing their wine throughout the USA and internationally.

The completed detailed survey results, which are provided only to survey participants, break the data down by winery size and includes averages on inventory, tonnage of grapes crushed, assets, debt to equity, and marketing expenses.

The 1984 and 1985 survey results showed some interesting comparisons. In 1984 the average winery purchased 56.3% of its grapes while using 43.7% from its own vineyards. The ratio was the same in 1985 but the ratio had a wider spread from smaller to the larger wineries. Smaller wineries showed purchased grapes at 89.7% with estate grapes representing only 10.3%. The larger wineries group showed the highest percentage use of estate-owned grapes at 60.3% with purchased grapes at 39.7%. This indicated a trend in the larger wineries toward more estate bottled wines.



Overall Average

In 1984 wholesalers were the largest marketing channel, while sales to distributors in 1985 represented the largest marketing channel (39.9%), an increase of nearly 9% over sales to wholesalers.

In 1985 an average winery received a greater percentage of its revenue from premium and sparkling wines than in 1984. The percentage of revenue received from table wines fell 15% from 1984, but the percentage of revenue from sparkling wines, 4.5% in 1985 and 2.4% in 1984, increased as did the percentage of revenue from premium wines, 73.1% in 1984 and 86.8% in 1985.

A nearly $2.00/case increase occurred from 1984 to 1985 in overall average revenue/case from $34.31 to $36.33. This amount varied among the different-size wineries as shown. Reasons for the differences may be a result of the marketing channels used by the wineries or their product mix. The average cost of facility/case rose from $16.19 in 1984 to $20.94 in 1985.

Price Waterhouse invites input from the wine industry. Comments on the survey and suggestions for additional items, particular statistics, or characteristics to be included in the 1986 survey should be addressed to Price Waterhouse Wine Industry Survey, 555 California Street, #3600, San Francisco, CA 94104.

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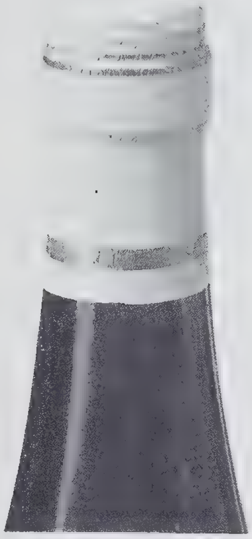

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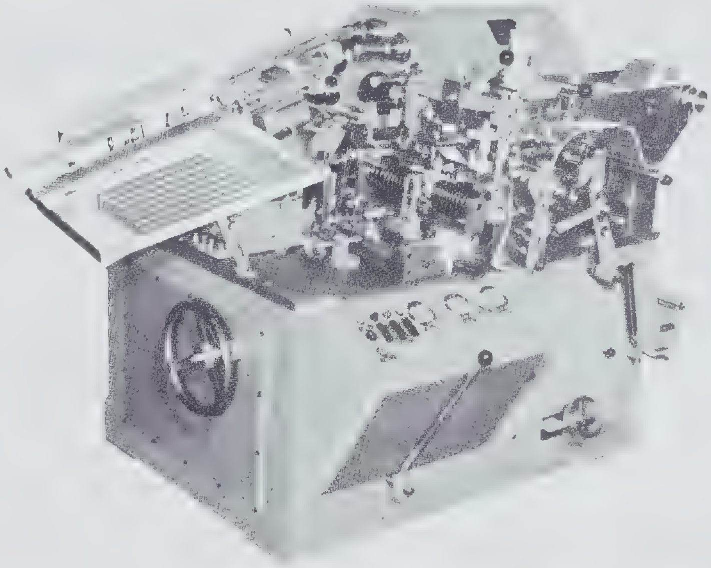

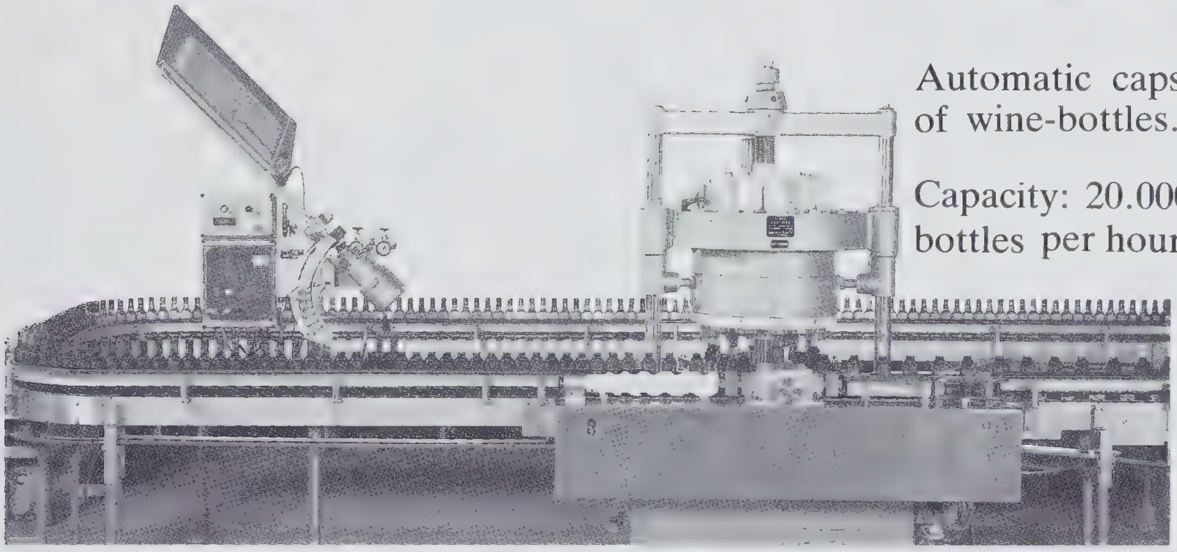

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Development of a Strategic Business Plan

Judy L. Mickle
Price Waterhouse, San Francisco, CA

What is a business plan and why do you need one?

There are many reasons why a winery or vineyard might need a business plan. Perhaps the most obvious of these is that it is a key component of any presentation attempting to obtain financing from banks or outside investors. For internal purposes, however, the business plan is an excellent tool for management in planning the future of a winery or vineyard.

Over its lifetime, a winery or vineyard typically goes through several stages of growth. Operations start, go through a period of rapid expansion and then reach maturity as the business's market becomes more established. Each successive stage in the life of the business brings with it new challenges. As a winery/vineyard gets larger, a more complex management structure and system of controls involving more delegation is required to keep pace with the increased responsibilities and work load.

How many people can you think of who started a winery or vineyard operation by doing everything themselves? They're in the vineyard for harvest, and supervise crush, blending and bottling in the winery. In their spare time, they make it back to the office to pay some bills, negotiate with the distributor and call some potential customers. As for planning and budgeting . . . well, there's always tomorrow! It may not take long for the winery to expand to the point where the winemaker/general manager can no longer effectively play all these different roles. He or she must learn to delegate in order to save valuable time for charting the course of the business and making sure all the various pieces work together smoothly.

This is a critical stage for any winery or vineyard. Making mistakes at this point can not only cost time and money but could threaten the viability of the winery itself. A business plan is an effective way to plan your way through this critical stage, avoiding some of the pitfalls and costs.

In particular, a business plan can provide the following benefits:

Coordination of personal and business objectives. This ensures that the winemaker/vineyardist is getting what he or she wants out of the business in terms of growth, direction, and market reputation.

Better decision-making. A business plan provides a standard against which to judge business decisions. It ensures that decisions are consistent with the overall strategic objectives and are not internally conflicting.

Greater winery or vineyard efficiency. By clearly defining in writing the business objectives and how these objectives are to be attained, a business plan allows easy coordination of the sales/marketing, winemaking, finance, and other business functions.

Strengthening of controls. A business plan serves as a benchmark against which to judge actual results. By regularly and consistently comparing expected results to actual, a winery or vineyard can refine its planned strategies and respond to potential problems promptly and effectively.

Common complaints

"But I have a 'gut feeling' for where I want my winery/vineyard to go. Why should I bother writing it all out?" The benefit to formalizing the plan in writing is that it forces you to be specific, highlights the coordination between business functions, and creates a standard against which to judge business decisions and actual performance. In addition, it efficiently communicates your plan for the winery or vineyard to the people you're going to be relying upon to make the plan work.

"My winery/vineyard is doing well enough without the plan." Just because your winery or vineyard is doing well now doesn't guarantee continued success as it goes through different stages of growth. Planning ahead will take some of the risk out of the future by helping you to anticipate changes faster and get ahead of the game.

"I can't afford to spend my time planning." Considering how important the success of your winery or vineyard is to you, can you afford not to spend the time?

How do you get started?

The first step in preparing a business plan is to begin accumulating information. Some of the information will be readily available. Some will require research and the development of financial models. The information you will need will vary depending upon whether you're starting a winery or vineyard for the first time, whether you're planning a significant expansion, or targeting a new market. In any case, certain subject areas should be clearly addressed in all business plans.

Identify your business and the industry of which it is a part. This

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may seem fairly obvious. If you're reading this presentation, you're probably in the wine industry. However, it is important to define which particular segments of the market you are aiming at, as well as to identify your primary competitors.

Research the industry. Gather information on historical data, trends, strengths and weaknesses of competitors, suppliers, customers and government regulations. This information will help you in planning what costs and margins you can expect to incur and will help you judge how your performance compares to your competitors'.

In the wine industry, this information may be difficult to find. Some potential resources are the Wine Institute for winery members in California, trade periodicals, trade organizations, surveys collecting financial information on wineries, and financial information on any publicly-held wineries. Certain statistics can be collected from all these resources.

Analyze the market. It is important to get as much information as possible on the size of the overall market and trends in wine consumption affecting the particular segment you are targeting in order to project your sales accurately.

Assess the current status of your winery or vineyard. Identify the strengths and weaknesses. Particularly stress those things that are unique to your business, whether they include the combination of quality and price, superior distribution, or distinctive marketing.

Related to analyzing the strengths and weaknesses of your winery/vineyard is defining what the critical success factors are in your company. What key relationships and events must occur for your winery/vineyard to be successful? Once these factors have been identified, appropriate reports should be designed to allow you to monitor them.

For example, critical factors to ensure the overall profitability

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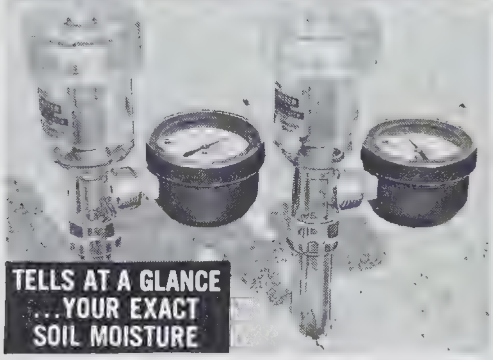

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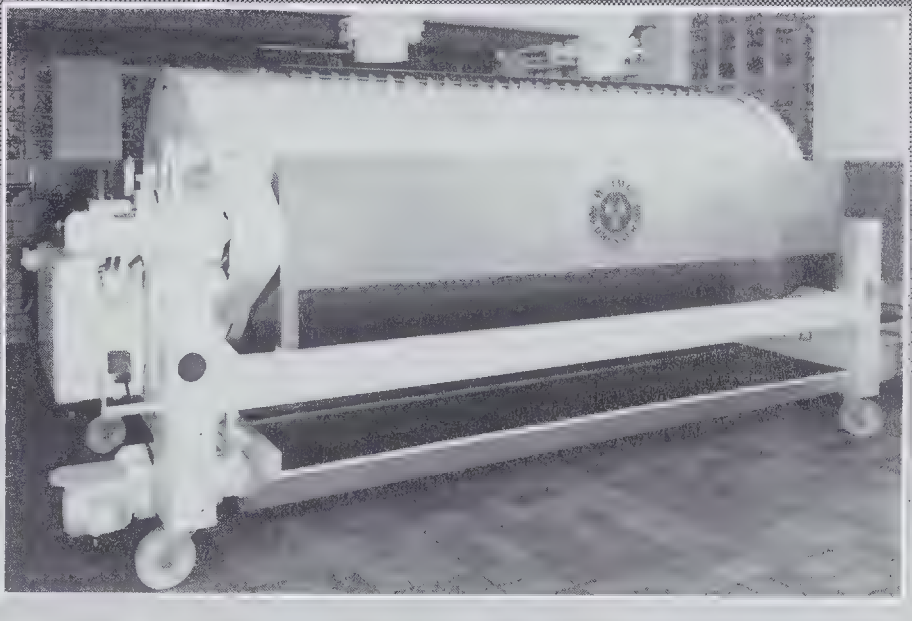

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of your vineyard operation will include the yields you obtain per acre, anticipated grape prices, and budgeted vineyard expenses for the year. In particular, interest and labor costs will be very important. Reports can be designed to track this information on a per acre basis. By comparing projected revenue, calculated from anticipated grape prices and yields, to expenses, the profitability of the vineyard operations overall as well as on a variety-by-variety basis can be evaluated and monitored regularly.

By concentrating your time on the trends and events that will make a difference to the winery or vineyard, you'll make maximum use of your efforts. Reports that you should be reviewing on a regular basis will monitor cash flows, working capital, cost and production information.

Set goals to be achieved in the next two to five years. Realistic and specific goals for all functions of the winery/vineyard should be established. Be sure to set your goals quantitatively and set specific time horizons in order to judge your progress. Also, the goals should be set in order to fulfill the winemaker/vineyardist's personal and business objectives for the company.

Develop a strategic plan designed to achieve the goals set. Once the goals have been established for the next 2–5 years, a plan needs to be developed for achieving those goals. The plan should be detailed enough to encompass all of the relevant functions of the winery/vineyard: production, marketing, financing, and management. At this point, you may identify areas where you presently lack the resources to achieve certain of your goals. More production equipment may need to be purchased, employees hired, distribution channels negotiated and set up. Your plan should indicate how you intend to overcome these obstacles and give you sufficient time to do so.

For example, if your goals are to increase winery production from 20,000 to 60,000 cases over the next five years, you should budget for certain capital expenditures, such as additional presses, barrels, tanks, and bottling line capacity. In addition, bulk wine and cased goods storage capacity needs will increase. The storage problem can be solved by leasing warehouse space or constructing a warehouse. If you lease, time will be required to find appropriate facilities. If you elect to build a warehouse, financing, permits and plans must be obtained before construction can be started. It is important to begin planning for future storage capacity far enough in advance to ensure it is in place and available when needed.

Proforma financial statements. By designing proforma financial statements, you will have a format for projecting your income statement and balance sheet into the future. These statements will be particularly important to potential bankers or investors. The financial statements will also allow you to anticipate any expected cash shortfalls. Price Waterhouse's third installment on business plans will be devoted exclusively to designing the proforma financial statements and other financial analyses.

Sensitivity analysis. A sensitivity analysis allows you to observe the effect on your financial statements of changes in certain of your key assumptions. This analysis will help you to assess the consequences to the winery or vineyard of favorable or adverse changes in the future—both internal and external. For instance, a sensitivity analysis can show you what will happen to your profitability and cash flow if interest rates increase 2%. Or it can demonstrate the effect on your production and capacity needs if your sales increase by 6%—or 10% or 20%.

* * *

Two future installments will discuss how the business plan should be organized and give some practical and specific guidelines on what to include in the various sections of the business plan.

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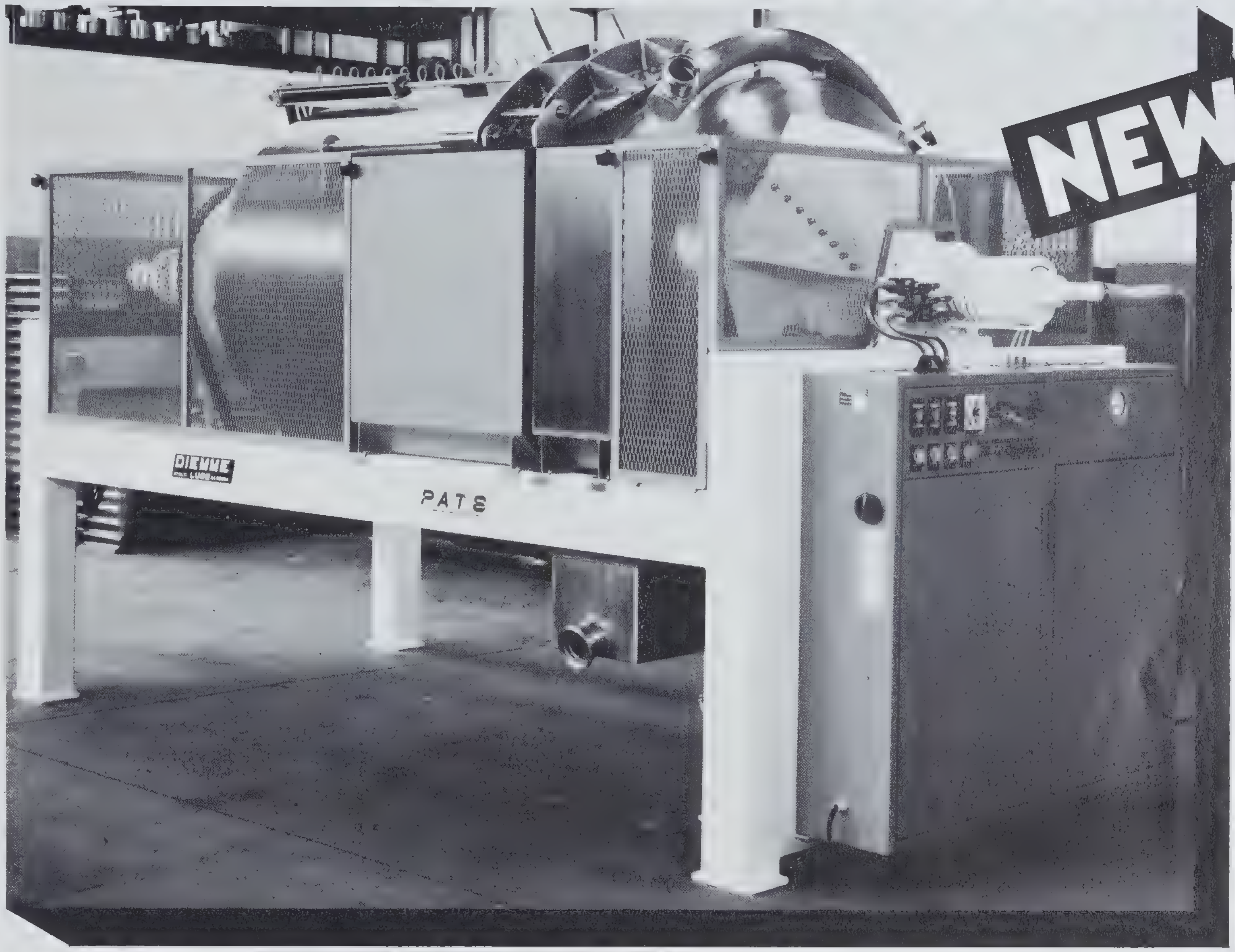

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Optimizing Vineyard Nitrogen Fertilization

Stephen Krebs

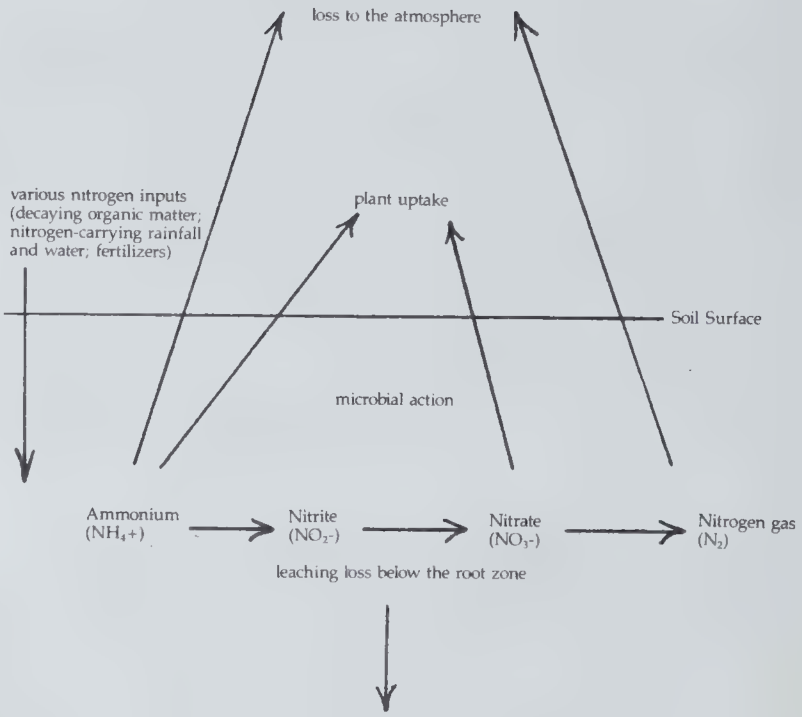
Introduction

Nitrogen is the fertilizer element most likely to be deficient in vineyards. It is also the fertilizer element most commonly applied by grapegrowers. And yet, in spite of widespread usage, the chemical and physical nature of nitrogen fertilizer and its effect on grapevine physiology are not well understood by many growers. The University of California has found that a large percentage of California vineyards have nitrogen levels that are either higher than necessary for normal growth or potentially toxic to a vine.

In the past, when nitrogen fertilizer was inexpensive, application cost was low and winery standards for acceptable fruit quality were less stringent, the economic impact of a poorly-conceived nitrogen program was small. Today, however, the grapegrower is faced with rising fertilizer costs and lower prices from wineries for grapes that fail to meet current stricter quality requirements.

Because both nitrogen deficiency and nitrogen excess may contribute to reduced yield, poorer fruit quality and lower cash returns, it is essential that the grower be familiar with the factors that affect nitrogen uptake and utilization by the grapevine. The vineyard operator with a clear understanding of these factors will be able to develop a cost-effective nitrogen fertilization program.

Simplified Nitrogen Cycle



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In this discussion, we will examine the interaction of various nitrogen fertilizers with the soil, water and the grapevine. Diagnosis of vineyard nitrogen status and the types of fertilizers and methods of application will also be reviewed.

Nitrogen and the Soil

Nitrogen is taken up by grapevines from sources in the soil. Of the many forms of nitrogen that exist, only the nitrate (NO_3-) and ammonium (NH_4+) ions are absorbed by the roots of vines. Although vines can utilize either of these forms of nitrogen for normal growth, most of the nitrogen taken up by the plant is in the nitrate form. This occurs for two reasons.

First, nitrate is mobile in the soil because it has a negative charge. Ammonium, on the other hand, has a positive charge which causes it to be held by magnetic attraction (adsorbed) by the negatively charged soil particles. This adsorption renders most of the ammonium unavailable to the plant, while nitrate exists as an available ion in the water found between the soil particles.

Secondly, under certain temperature, moisture, and aeration conditions, the ammonium form of nitrogen is converted by soil micro-organisms to the nitrate form. In fact, all forms of nitrogen are eventually converted to nitrate by these microbial soil organisms.

There are many reactions that occur in the soil involving nitrogen and soil micro-organisms, and the sum of these reactions make up the nitrogen cycle, illustrated here. We see that the nitrogen supply in the soil is in constant flux.

Grapevines respond to the addition of nitrogen above the levels usually found in nature. From a practical standpoint, the grower wants to add enough nitrogen in the form of chemical fertilizer to bring the amount in the soil to an optimal level for

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healthy growth and crop production. Ideally, this addition is done so that the nitrogen is available at proper levels when the grapevine has its greatest need for it, and in such a way that losses of nitrogen are minimized for greatest cost-effectiveness.

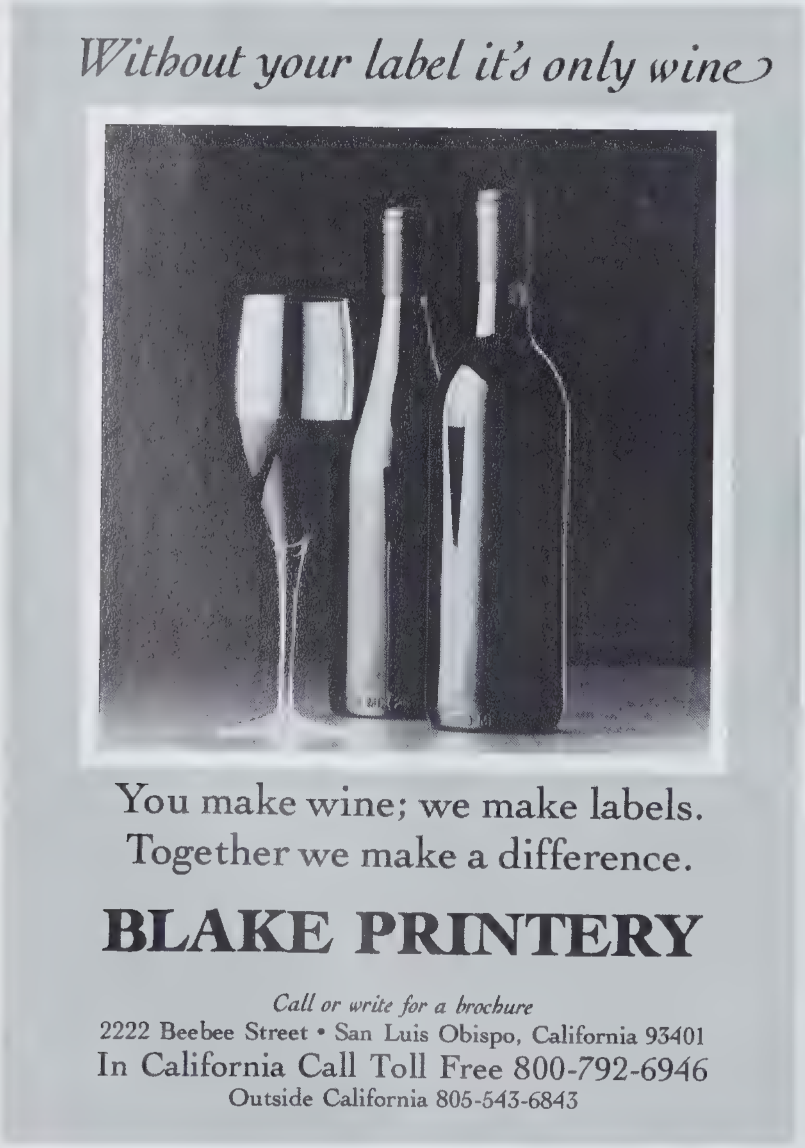
Individual soils vary in their ability to supply nitrogen to the vine. Soil physical factors such as aeration, presence of hardpan, claypan, bedrock or water table, and texture greatly determine the effective root zone. Within this root zone, the cation exchange capacity (CEC—a measure of a soil's ability to adsorb nutrient elements), the available moisture and the abundance of nutrient elements determine the extent to which the vine's roots will utilize the available soil volume.

In order for a root to absorb nitrogen, it must come into contact with the nutrient. The nitrogen may move to the root carried by water, or the root may grow to the site of the nutrient. Because newly-initiated roots are most effective in absorbing mineral nutrients, much nitrogen uptake occurs through young roots, often called rootlets.

Tiny roots penetrate the soil seeking moisture and nutrients, and have a brief effective lifespan. Many of them die back, and are replaced by new rootlets, much in the same way that the above-ground portion of a vine discards older leaves while producing new ones. As long as moisture in the soil during the growing season permits root growth, the vine continues to develop new rootlets, encountering nutrient elements in the process. However, new roots will not develop in soils that do not have available water.

Nitrogen and Water

Water plays an important role in the movement of nitrogen through the soil. It is with the downward movement of water that the nitrogen reaches the root zone of the vine. Fertilizers consisting of the nitrate form of nitrogen will move with the soil water. With excessive water, such nitrogen may ultimately be carried below the root zone. This is referred to as leaching. Fertilizers consisting of ammonium or other positively-charged ions will move downward with water only until an available negatively-charged position on a soil colloid is reached. The ammonium ion is adsorbed by the soil, and further movement is not possible until it is converted into a nitrate by soil microorganisms.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Available water is required for new root growth, and new root growth is very important for nutrient uptake by the vine.

In vineyards where the most practical application method of nitrogen fertilizer is by broadcasting onto the soil surface, a negative effect of moisture must be considered. Volatilization loss to the atmosphere occurs when ammonium-containing nitrogen fertilizer in contact with the soil surface becomes wet. The nitrate portion is not, however, susceptible to this kind of loss. All ammonium-containing fertilizers are volatile to some extent. Losses of up to 40% of the total nitrogen applied are possible in a very short period.

Insofar as possible, the broadcasting of nitrogen fertilizer should be scheduled so that rainfall or irrigation water will immediately carry the nitrogen into the soil, safe from volatilization loss. Research indicates that the volatility of nitrogen fertilizers is especially great on acid soils.

In order to avoid leaching losses, fertilizer application must be timed so that anticipated irrigation or rainfall will carry the nitrogen into the root zone. In making this decision, the grower will be greatly assisted by knowledge of the typical rainfall pattern for the area and the waterholding capacity of the soil.

Vineyard soils hold between ¾″ (sandy soils) to 1 ½″ (fine-textured soils) of available water per foot of depth. An inch of water will move to a depth of between 8 and 16 inches. Usually, the effective root zone is from one to six feet in depth, in the absence of other soil factors.

With determinations made for a given vineyard, the timing of the application attempts to anticipate the amount of rainfall that will occur, with the goal of placing the nitrogen in the root zone at the time when the vine will require a supply for the growth cycle.

In irrigated vineyards, nitrogen may be applied along with irrigation water. The grower should calculate the movement of the nitrogen in a similar way, as just discussed, with the goal of delivering the nitrogen into the root zone to coincide with the vine's need for it.

Nitrogen and the Grapevine

The need for nitrogen is greatest during the period of rapid vegetative growth early in the season, when rapid synthesis of vital plant compounds places a large demand on available supplies of nitrogen. Grapevine nitrogen levels are highest just prior to bloom. The level of nitrogen in the tissue drops rapidly as vegetative growth slows near bloom and fruit set.

Because nitrogen is needed for protein production, chlorophyll synthesis, nucleic acid formation and enzyme synthesis, a deficiency reduces total growth of the vine. Reduced growth can mean less foliage, an imbalance of sugar and acid in the ripening fruit, and lower yield.

Individual grape varieties differ in their level of nitrogen accumulation (*PW* p.26-32 May/June 1985). In an unpublished trial, the University of California found that bloomtime levels of 37 varieties tested ranged from 136 ppm nitrate-nitrogen all the way up to nearly 2,500 ppm nitrate-nitrogen. (J.A. Cook, personal communication). All varieties in the trials were judged by other indicators to be at good nitrogen levels.

The influence of rootstock on yield and petiole nitrate levels has been well-documented. A six-year University of California study of three rootstocks and 22 scion varieties in Napa Valley showed that rootstocks vary in their ability to provide nitrogen to the vine.

Rootstock AXR 1 gave the highest yield and had intermediate nitrate levels. Variety 99-R was the weakest stock, lowest in yield and nitrate, but was the most efficient fruit producer per unit of growth. St. George produced the highest petiole nitrate levels. In seasons that favored high nitrate accumulation, St. George had excessive amounts which were inversely correlated with yield. The research suggests that the erratic performance of St. George in some vineyards was related to its nitrate behavior.

Alternating periods of warm and cool weather, particularly in the spring, may cause changes in the metabolism of nitrogen in the grapevine. White deposits consisting of the salts of amino acids are occasionally produced along the edge of the leaf during cool periods, and this is an indication of high nitrogen levels.

Diagnosing Vineyard Nitrogen Status

A number of diagnostic methods are available to the grower for the development of a good nitrogen fertilization program. Correlating the results from these diagnoses, the grower can tailor the fertilizer program to suit the exact conditions in that vineyard. Specifically, the grower should collect information in the following areas:

1) Soil type—

What is the cation exchange capacity of the soil?

What is the water-holding capacity of the soil? This indicates how water will move in the soil and how well the soil will support root growth.

Do impediments in the soil profile exist which will limit root development and water and nitrogen movement?

What is the volume of the root zone? Use this to calculate the zone in which nitrogen is to be placed.

2) Vine factors—

Does the rootstock promote or restrict nitrate accumulation?

Is the variety a high, intermediate or low accumulator of nitrate?

3) Fertilization history of the vineyard—

Can current vineyard conditions be correlated to previous fertilization practices?

4) Observation—

Vineyard appearance and yield are important indicators of the nutrient status of the vine:

How does the yield compare with normal for the variety and the location?

What is the level of vegetative growth, and how does this compare with other vineyards in the area?

Tissue symptoms can be important clues to nutritional problems:

Is the foliage low in color, with low vegetative growth and yield? These together might indicate low nitrogen levels.

Do white deposits of the salts of amino acids occur along leaf margins during cool spells in early spring? Correlated with high vigor and low yield, these factors might mean excess nitrate levels.

5) Petiole analysis—

Analysis of plant tissue is an essential part of mineral nutrition diagnosis. Properly collected samples are chemically analyzed and the results are interpreted, taking into account seasonal differences, rootstock and variety. Depending upon vineyard location and weather of a given season, full bloom usually occurs in May or early June. Varieties differ in their period of bloom, so a grower may have to sample at different times.

In order to insure accuracy, a large enough number of petioles must be collected. These are chosen randomly, taking a petiole from a leaf that is next to a cluster, and discarding the leaf blade

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Comparison of Nitrogen Fertilizers

Type	% Nitrogen	$/lb Nitrogen*	Volatility	Acid-Forming
Ammonium nitrate	34	$.42/lb	low	yes
Ammonium sulfate	21	$.45/lb	low	yes
Calcium nitrate	15.5	$.70/lb	no	no
Urea	46	$.35/lb	high	yes

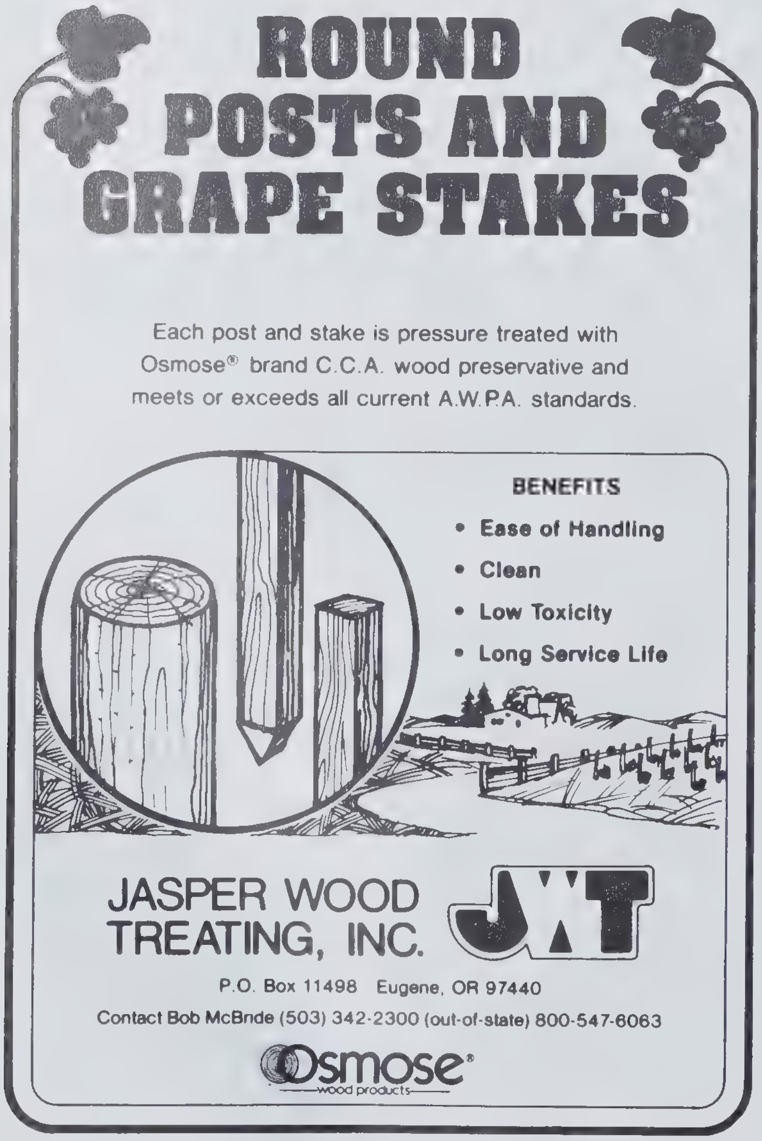
**Based on typical retail prices in California, Fall 1985*

immediately. Usually a minimum of 100 petioles is collected from a block no larger than 10 acres. A paper bag is used to collect the samples, so that there is good air circulation. Use of plastic bags can promote development of microbial growth on the sample tissue, distorting the laboratory results.

The samples should be delivered to the laboratory as soon as possible, but may be stored in open paper bags until delivered. Drying does not affect the accuracy of the analysis. For a detailed discussion of petiole analysis, please refer to *Grapevine Nutrition and Fertilization* published by the University of California. There is potential for error in petiole analysis in several steps of the process. By understanding these steps, the grower can make the most of his sampling results.

First is sampling error in the vineyard. Areas of different soil types should not be mixed in one sample, and the sample size should be sufficient to overcome individual plant variation. Second is time of collection. This is probably the greatest source of error in petiole analysis, because the level of nitrate drops rapidly from a high prior to full bloom. Judging the exact time of full bloom is often difficult, so the numerical result of the sample may not be precisely the full bloom level of nitrate upon which standards are based.

Third is contamination, either before collection from vineyard sprays, or afterwards before delivery to the laboratory. Finally, utilize a dependable laboratory.



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Types of Nitrogen Fertilizer

Nitrogen fertilizers are produced in a number of common formulations. Too often, one is chosen only on a cost-per-pound of nitrogen basis. There are other considerations, as discussed above, which can give the grower a specific reason to choose another formulation. Occasionally, a grower might have a specific reason to choose another formulation. For example, in acid soils, calcium nitrate might be used to counter the low pH; or, the relative mobility of the nitrogen might suit a particular timing or method of application.

Comparison of Nitrogen Fertilizer

Of the commonly used fertilizers, urea and those with nitrate formulations are mobile in the soil. Those with ammonium formulations are adsorbed, and only become mobile after microbial transformation to nitrate. Urea is especially subject to volatilization. Various granular and liquid preparations are available, depending on the type of application method used.

Application Methods

Common ways of applying nitrogen fertilizer include broadcasting, banding and spot placement; sub-surface placement; and injection into irrigation water. All surface applications of ammonium-containing formulations should be timed to coincide with rainfall or irrigation in order to minimize volatilization. Incorporation of these materials into the soil reduces potential loss. If nitrogen is to be injected into irrigation water, the amount of water applied should be calculated to move the nitrogen into the root zone.

Summary

Nitrogen contained in the soil is dynamic in nature, constantly changing in form and availability. The best use of nitrogen will be determined by yield response and fruit quality, petiole analysis, and the observations and knowledge of the grower. Although nitrogen fertilization is only one aspect of a comprehensive management system, it has a wide-reaching impact on the health, productivity and profitability of a vineyard.

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SERNAGIOTTO S.p.A. is proud to have succeeded in producing, after years of research, the NOLM, which extracts must from grapes in less than 2 minutes by a continuous process. It uses a thin, flat surface without friction or oxidation. The new unit eliminates all the disadvantages of the traditional presses and guarantees improvement in the quality of wines obtained by NOLMING.

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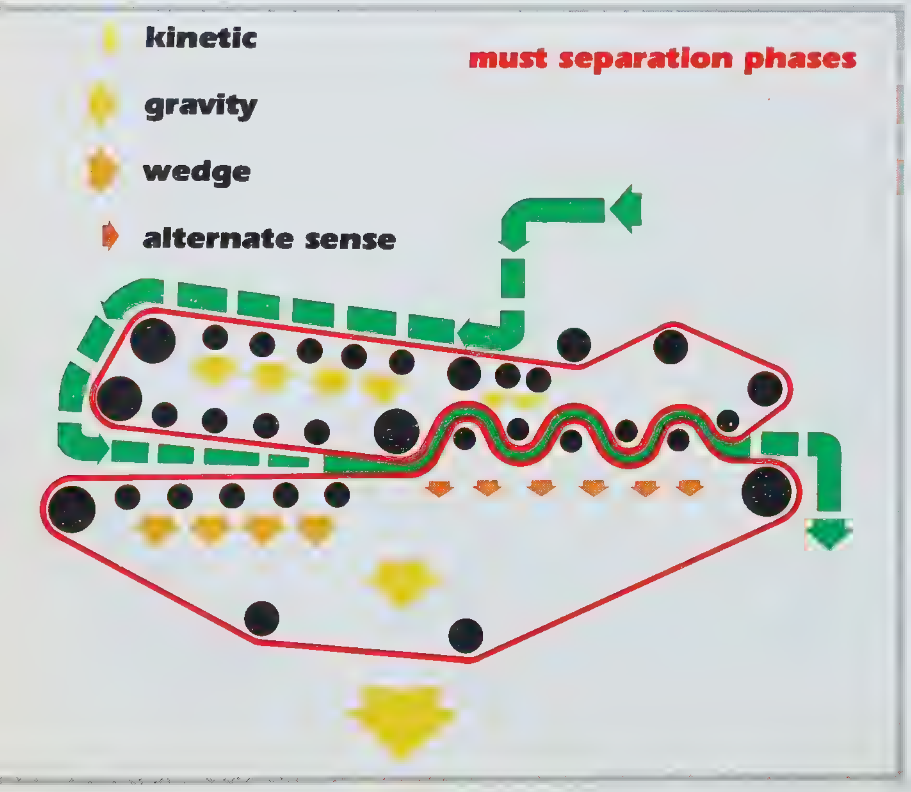
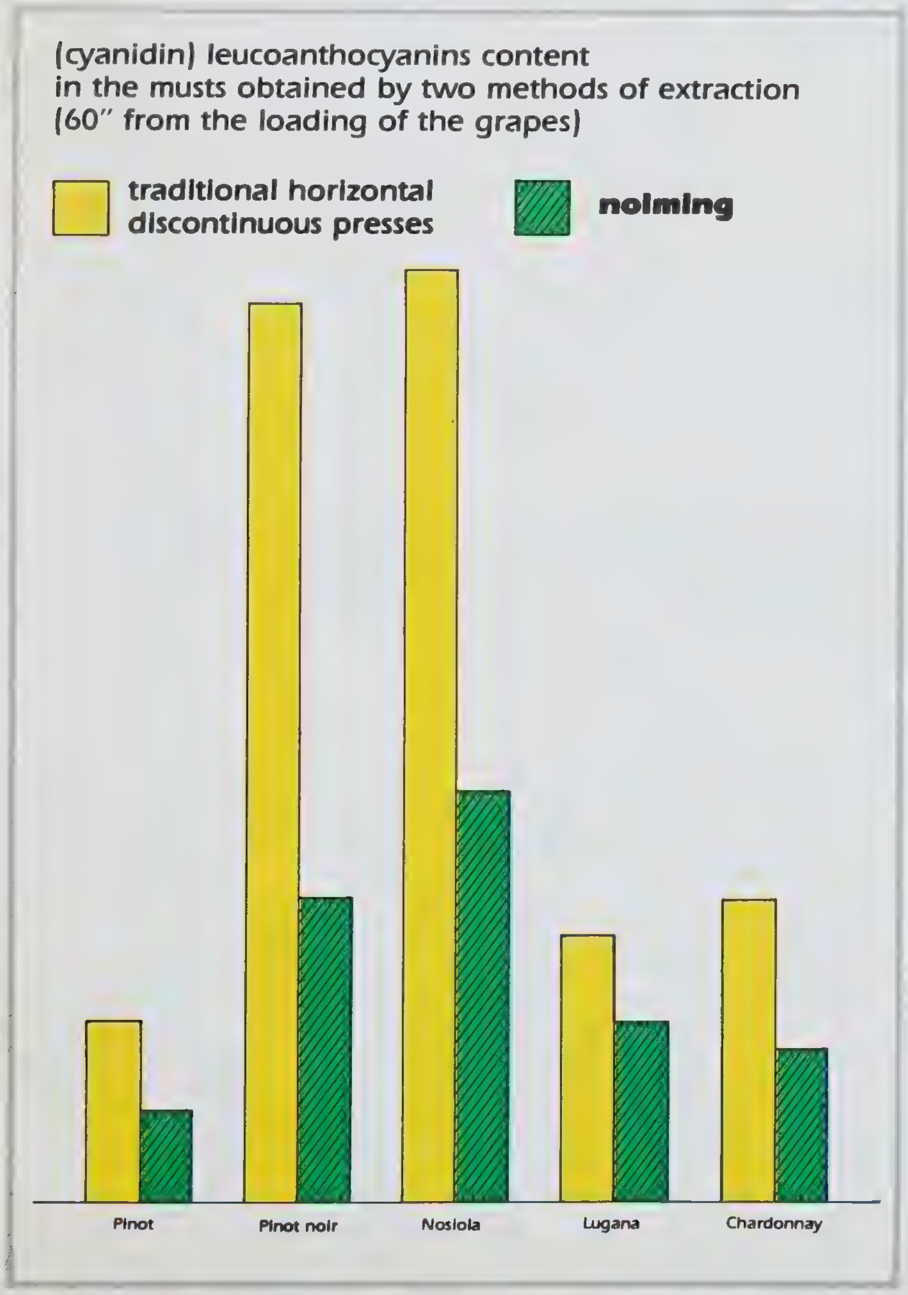
This machine is particulary suited for the production of high quality wines meeting D.O.C. (USA varietal label) requirements. The final pressing of the nolmed grapes may be done with any type of press.

The crushed stemmed and unstemmed grapes (either are handled without problems) are distributed on the NOLM upper belt by a swinging distributor pipe placed inside the feeding box. The continuous running belt, by the force of gravity alone, creates a separating process without the involvement of mechanical action.

The crushed grapes are then carried by the belts into a "wedge zone" where two parallel belts, positioned one above the other, and moving at the same speed, form a wedge to exert an increasing pressure on the grapes. In this part of the machine a progressive extraction of juice is obtained without friction. It is as if we put the pomace between the palms of our hands and softly press it. At this stage the pomace, squeezed between the very close belts, follows an S pattern around the rolls. The pressure exerted by its movement in alternate directions facilitates the progressive extraction of the must. The must dejuiced in these zones falls onto 4 trays thus permitting a selection of up to 4 types of wines.



NOLM



(cyanidin) leucoanthocyanins content in the musts obtained by two methods of extraction (60″ from the loading of the grapes)

characteristics

This is a continuous working process not requiring any minimum quantity of the loading product: even the largest model can work with a few kilos of grapes. Pressing starts immediately. The time passing from the inlet of the crushed product to the oulet of the pomace cake is very short, less than 2 minutes. This eliminates oxidation.

According to the different kinds of grapes used there is the possibility of using different ranges of extraction by altering: belt speed, wedge angle, belt pressure.

The absence of friction on the pomace and the softness of the system guarantees a reduction from 2 to 8 times the normal amount of poliphenol content in the must in comparison to that obtained by any other system.

The quantity of suspended solids is extremely low if compared to that obtained by a screw press.

The physical aspect of the settling solids in the nolmed must is very important. Because the grapes are not subject to rough treatment the solids maintain their original aspect. They are intact and easily gather into large flocks.

The NOLM is provided with automatic cleaning devices for the belts which can be used during any pause of the work phase in order to avoid the creation of bacterial processes. The wire mesh allows for easy drainage and facilitates cleaning.

The atoxic Trevira single-thread polyethylene belts guarantee maximum elasticity while almost completely eliminating the problem of belt deterioration.

The belts are seamless. They have a flatness unknown till now and a dimensional stability thanks to a particular thermofixing treatment which guarantees this stability in all directions.

Minimum average life: 2000 hours.

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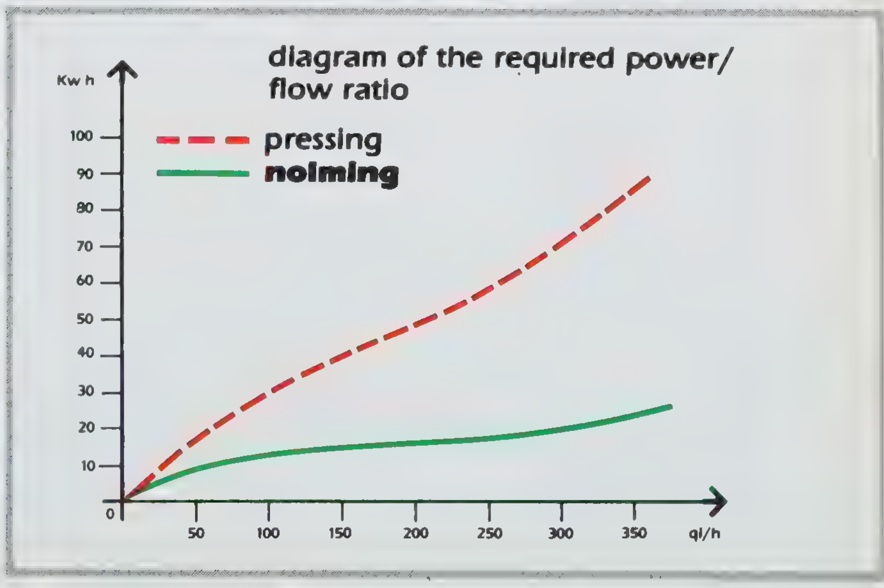
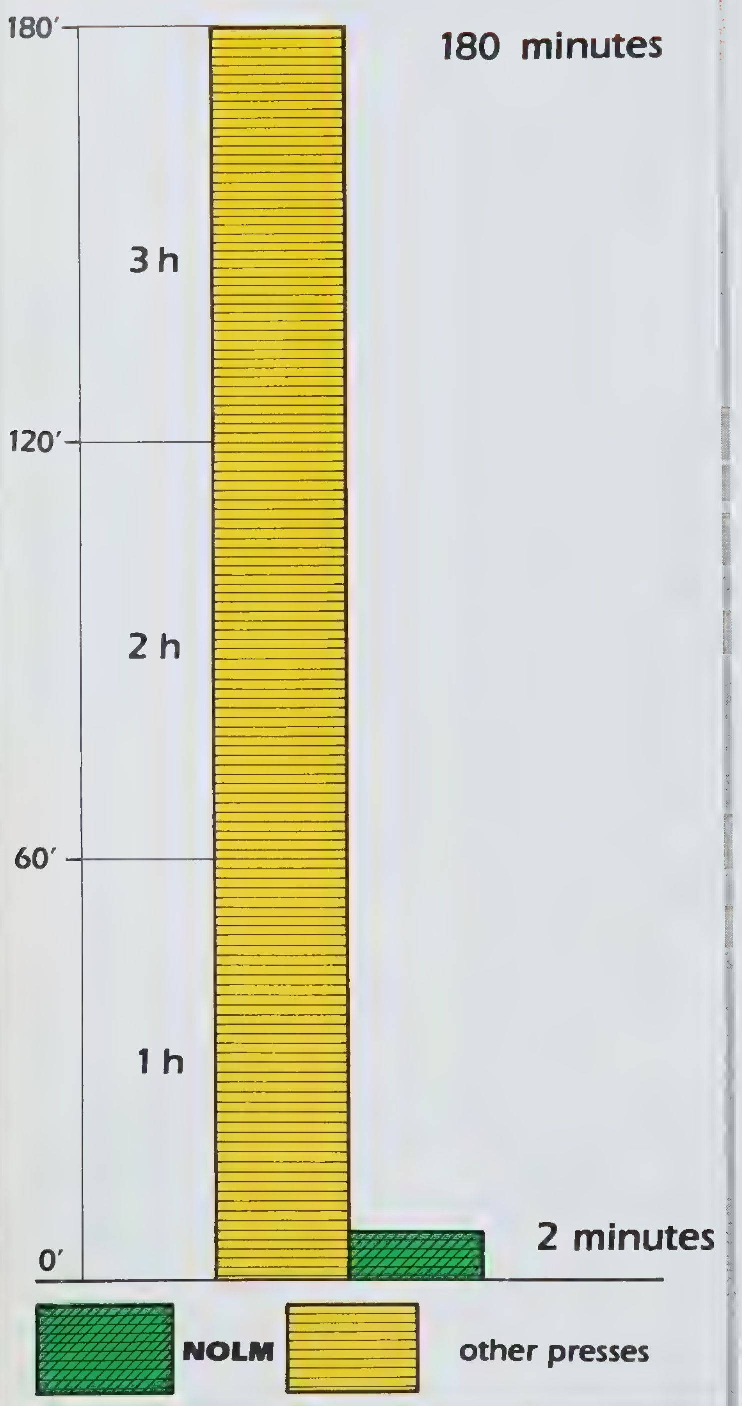


diagram of the required power/ flow ratio

NOLM

histogram comparing the time of extraction of 185 galls of must per ton of grapes from pinot between the NOLM and other presses



technical data and performances

	mod. 500	mod. 1300	mod. 2000
capacity/tons per hour crushed stemmed or unstemmed grapes or mechanical harvested grapes	6 ±20%	20 ±30%	30 ±20%
hand picked whole grapes (not crushed)	4 ±20%	16 ±20%	24 ±20%
must yield galls/ton depending from the kind of grapes	145 to 195	145 to 195	145 to 195
processing time	less than 2 minutes		
free-run must draining step	yes	yes	yes
installed power kW	2,2	4	4,5
length inches	208.66	244.09	244.09
width inches	66.92	106.29	137.79
height inches	78.74	106.29	106.29
weight t	2,5	11,6	16,3
frame	steel + FIBERGLASS COATING		
trays and hoppers	stainless steel 304		
belts	polyester Trevira		
rolls	steel and food compatible rubber and FIBERGLASS		

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Fetzer Grows with Demand

Eleanor & Ray Heald

"The first two quarters of 1985 showed us 30% ahead of 1984," states John Fetzer, president of Fetzer Vineyards, in Mendocino County, CA. "Conservatively, then, I'd estimate a 25% growth in the year ending December 1985, once end-of-the-year accounting is completed."

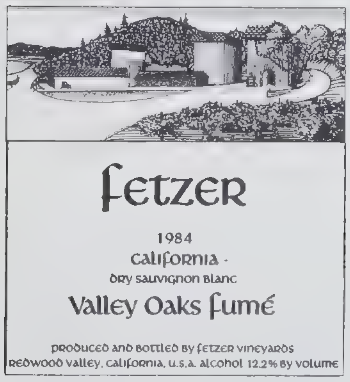
Founded in 1968, Fetzer Vineyards experienced a growth in 1985 to approximately 675,000 cases–up from 540,000 the year before. The winery is owned and operated by ten family members who have experienced a 39% annual compound growth rate from 1976–1983 and continued with 20% in 1984. Fetzer wines are available everywhere from the fanciest restaurants to the smallest grocery store in all 50 states, Puerto Rico and several foreign countries.

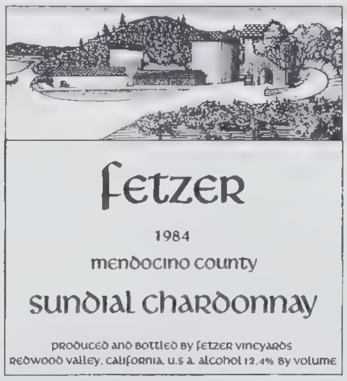
The Fetzers see no end in sight to their phenomenal growth. They work on 6- to 8-year cash flow projections and Fetzer analyzes their success this way: "We have been growing grapes since 1958 and that's an advantage we have over other wineries–we know the best growers and everyone of us knows all the vineyard techniques–budding, grafting, etc. All the family members spend a lot of time in vineyards. Next to Ernest and Julio Gallo, we probably spend more time in vineyards than anyone else.

"Our buildings are not fancy, but they are very functional. We spend our money on equipment, technology and people. We are only now, after 15 years, fixing up the grounds. Other people built fancy buildings first. There isn't that kind of money in this business. You need to be very frugal.

"Our business grew from nothing. We worked hard as children growing up. It's easy to get carried away in this business with a big life-style, but we remember hard times and struggles and it's still a struggle to sell wine. There is no margin for error in wine sales.

"In 1985, we allocated $40,000 for brand advertising while spending between $300,000–$500,000 on promotion items such as back cards, table tents, umbrellas, and wooden wine boxes. Robert Mondavi Winery does not spend much money on advertising, either. We do not consider ad money to be money well spent."


Fetzer
1984
California ·
Dry Sauvignon Blanc
Valley Oaks Fumé
Produced and bottled by Fetzer Vineyards
Redwood Valley, California, U.S.A. alcohol 12.2% by volume


Fetzer
1984
Mendocino County
Sundial Chardonnay
Produced and bottled by Fetzer Vineyards
Redwood Valley, California, U.S.A. alcohol 12.4% by volume

Paul Dolan, winemaker at Fetzer since 1977 and the person chiefly responsible for the winery design, comments on keeping expenses down: "Our staff is probably ½ to ⅓ the size of any other winery in our production range. We crushed 11,000 tons in 1985 with one crew of 12–13 workers working 16–20 hours/day.

John Fetzer (r), President, Fetzer Vineyards; and Paul Dolan (l), Winemaker, in white wine barrel room.

"I am not a strong believer in spending a lot of time or money on lab analysis. We do the analyses necessary to insure quality and safety of the wine. We have one full-time person in the lab. I don't see the value in cranking out all those analyses numbers. Our orientation is tasting the wine and working with the wine–being with the wine.

"We operate on a small winery philosophy–not in the three-shift, corporate winery mentality. Our equipment is designed around reacting to the wine as expediently as possible during the harvest period when it makes or breaks you."

"We depend on restaurant or on-sale market sales to build a brand," says Fetzer. "Sundial Chardonnay and Valley Oaks Fumé are in chain seafood restaurants on a national basis, such as Ancient Mariner, Red Lobster, and Rusty Pelican. That has been our main emphasis over the last four years–targeting distribution of certain wines in chain restaurants only. Our on-sale market is now 45% of total sales.

"Our sales concept is based on selling the ranch (vineyard) rather than selling the winery. Our first 'ranch' success was Sundial Chardonnay. We tailored it for people who sell wine by the glass in restaurants. In Washington, D.C., for instance, you can walk into just about any restaurant and Sundial Chardonnay is offered by the glass. Valley Oaks Fumé is modeled similarly. It is light, fruity and easy to drink, and priced for by-the-glass sales.

"We are building another brand. People ask for Sundial Chardonnay. They don't even say Fetzer anymore. That's a real achievement. We hope to do the same thing with Valley Oaks

Fumé. I don't know how far you can stretch this kind of thing, but so far we have been successful."

Sundial's production history began in 1980 with 10,000 cases of a cold-fermented (55°F) 'no-oak', reasonably-priced wine that attempted to emphasize tangy, fresh varietal fruit characteristics in Chardonnay. 19,000 cases from the 1981 vintage included some lots aged less than one month in American oak. 24,000 cases from the 1982 vintage, with several lots aged two weeks in American oak, received the name 'Sundial Chardonnay' for the Fetzer vineyard property supplying most of the grapes for the wine.

A slight change in the 1983 Sundial included 15% of the blend being fermented in French oak and 60% French-oak-aged briefly to use the oak to add aromatic interest and mouth feel without 'oaky' character. Production was 45,000 cases. Of 60,000 cases from 1984, 10% was barrel-fermented and 30% was aged briefly in French oak. 1985 production is estimated to be 50% greater than 1984.

The history of Valley Oaks Fumé began in 1980 with 4,000 cases of a Home Vineyard Sauvignon Blanc bottled as Fumé Blanc in a hard-edged and flinty but not grassy style. Adding other growers' fruit, 7,500 cases were produced from 1981. Grapes from several Lake County vineyards and Sonoma Cutrer in Sonoma County and Valley Oaks Vineyard gave the 15,000 cases of wine produced in 1982 a varietal grassy component previously missing. 1983 saw 18,000 cases of a split appellation: 63% Lake County / 37% Mendocino County.

Valley Oaks Vineyard in Hopland, Mendocino County was purchased in May 1984 and, being an excellent site for Sauvignon blanc, the proprietary name was given to the Fumé Blanc. 30,000 cases from the 1984 vintage were bottled. 1985 vintage production is projected to be an increase over 1984.

"As we have increased sales, it has been important that we not keep increasing the generics because that's the way to end up as a jug winery," says Fetzer. "By percentage, our generics have been declining with total growth. In 1985, we produced 30% generic wines in the Premium Red and Premium White category. We emphasize on-sale accounts with our generic wines."

Using Cabernet Sauvignon as an example, Fetzer explains the labeling policy and placement of wines in either on-sale or off-sale markets this way: "We use Lake County Cabernet Sauvignon, the lower end of our Cabernet Sauvignon line in chain, or off-sale outlets as well as chain restaurants where they move cases. Reserve and Barrel Select wines are in finer packaging operations—in fine wine shops and better restaurants. Barrel Select wine in these restaurants are often served by the glass; Reserve wines are usually served by the bottle at the table.

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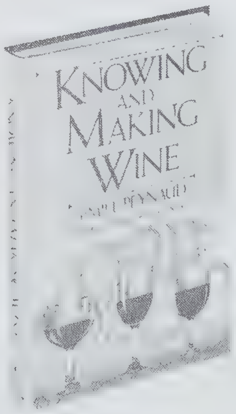

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"You can build a brand faster in restaurants than anywhere. One problem is that you can be too well-known. People will say that they can find our wines anywhere. That's where we excel because we can say this wine isn't generally available in the retail shop. You can also be too little-known and a restaurateur will claim his customers don't know the brand and it will be hard to sell.

"Our objective is to go to a fine dinner house in Beverly Hills and sell them our Reserve wines. We must have the correct varieties. In Beverly Hills all they want to hear about is Cabernet Sauvignon and Chardonnay. They don't want to hear about anything else.

"We must also have continuity—restaurants need to know that they can be supplied. We used to market a Cole Ranch Cabernet Sauvignon—it was not made every year, but about three in every five. This caused problems, especially in restaurants. Now we are beginning to sell our Reserve wines to restaurants because we make them in sufficient quantity every year to insure restaurant supply through the year until the next vintage is released.

"Our grower wines, like Ricetti Zinfandel, add interest to our line, but they are not the mainstay. Sundial Chardonnay, on the other hand, is put everywhere, including chain restaurants and retail shops so people can find it.

"More restaurateurs are becoming aware of reasonable wine pricing—twice wholesale plus $1.00. We preach this continually. Chain restaurants are going to make an impact on pricing here.

"We have concentrated on airline business since 1983. The businessman often tastes Fetzer wine under ideal conditions during business air travel. If he sees Fetzer wine that evening for dinner while dining at the hotel, he has already been influenced positively. Hotel chain and airline sales are two reasons for volume sales of Fetzer wines. American Airlines is our largest airline account in addition to six other airlines."

Fetzer admits that the toughest market for California wineries is the northeastern United States. "Some wineries have given up, but we keep fighting it. Our Lake County wines can sell in New York City for $3.99. We hold comparative tastings with large wine shop owners in NYC and they end up admitting that our wines are better than the imports at the same price. In New York, it is virtually impossible to sell Johannisberg Riesling. The import competition there is just too great. We put that production in markets where it will work."

Sales management is headed by Mary Fetzer, director of marketing, and brother Jim, general manager. A team of hired regional managers oversee sales representatives and a local distributor.

Whenever sales representatives are hired, they are brought to California to spend a week at the winery, meeting growers and seeing first-hand all the operations of Fetzer. Regional seminars, which last one day, are conducted by family members every six months and the representatives return to the winery each year for a three-day update.

Sales predictions are made annually by regional managers and sales representatives. These are compared with management projections based on past sales and the industry as a whole. Fetzer comments, "We are only growing with demand. We make projections on total sales but also by variety."

Dolan adds, "The tight-knit group philosophy of the Fetzers makes all employees feel that they are part of the winery's success. Employees are given the opportunity to express themselves within their work. We don't have reins that are always being pulled in."

When John Fetzer was asked if another winery that is not so

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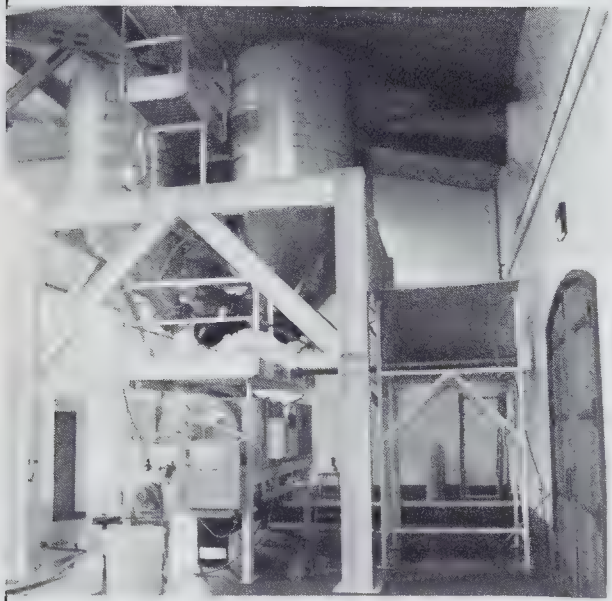

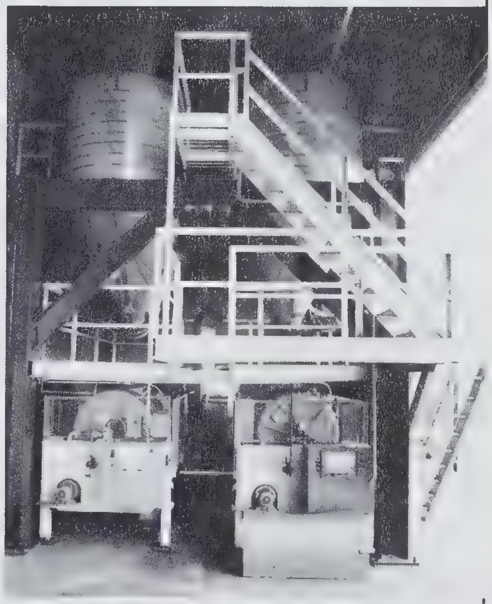

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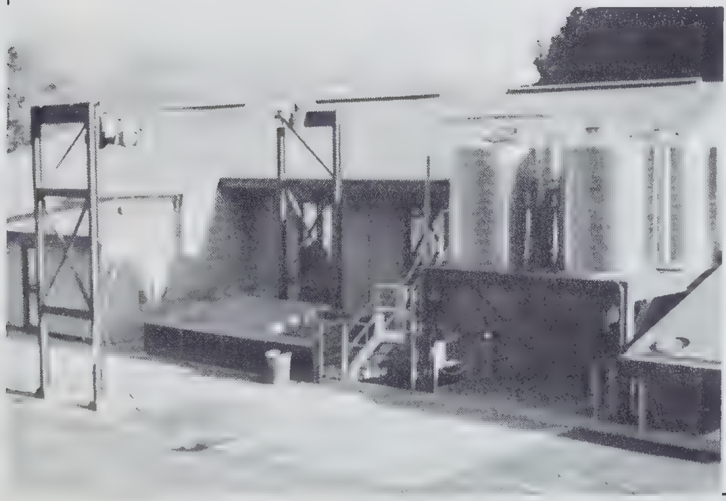

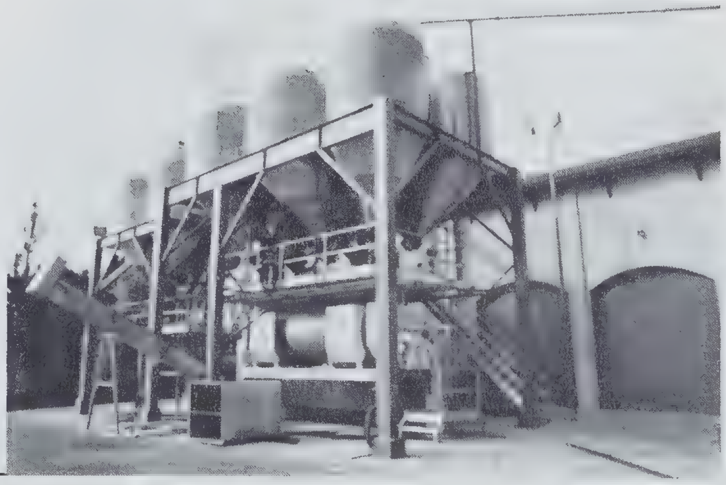

family-oriented could experience equal success, his answer was 'no'. "We brag that we have hired some of the best sales people in the industry, but sometimes it takes a Fetzer family member to open doors to prestige accounts. When Mary, Jimmy and I call on these companies, we get appointments and sell wine. In New York City, accounts will not spend one second talking to a representative. If I had more brothers and sisters, we could really go! If we had two dozen more, I'd move one into each major market. When we return from a sales trip, we can see the orders coming in. Wine sales are very demanding, but we have to do it."

Fetzer comments on sales and pricing, "Our philosophy is keep the price of the product down to keep sales up. We operate on a cost-based pricing policy—cost of fruit, production, packaging and fixed overhead. We don't have a really big overhead because we don't, as family, take big profits from the winery—we plow it all back in. We can move to compete at anytime.

"Sales are one thing, but the key to our winemaking success is blending. If you are dependent on one vineyard in a single location, there are years when you will be in trouble."

Dolan echoes these remarks, "We blend wines from different counties and different vineyards. Each of the areas produces a different style of wine. We use different percentages from different tanks to make what we think is the best wine."

Blending, like sales, is overseen by yet another Fetzer. Diane Fetzer, winemaker-special projects, is one of three winemakers responsible for evaluating all Fetzer wines for blending, finishing, and bottling. She is in charge of Fetzer's pilot winery, in addition to managing the winery lab and the sparkling wine program. Pilot winery projects include experiments with various oaks and coopers, barrel-fermented whites and reds, malolactic fermentation, carbonic maceration, fermentation temperatures, and late-harvest wines.

19% of the total Fetzer production comes from 750 acres of Fetzer-owned ranches. The remainder is purchased from growers in Mendocino and Lake Counties principally, but they also buy from as far south as Santa Maria in Santa Barbara County and Monterey County. Grapes come from the Sierra Foothills in Amador County and Cabernet Sauvignon comes from Mount Shasta in Shasta County as well. There are no long-term contracts with growers—2 to 3 years at most, but they have purchased from many of the same growers since 1970. Brothers John, Jim, Joe, and Bob share their vineyard expertise with growers who sell to them. Annual meetings with the growers are held to advise them on new techniques and review basic viticulture.

"It's really the blending process more than the winemaking process," continues Dolan. "With whites, we have developed a system of processing that makes them softer in character and fruit without interference of phenolics. The way we do that is to use very little SO_2 (none at the crusher) that tends to extract some phenolics out of the skins and give harshness to white wines. We also try to keep alcohol levels low.

"In order to reduce SO_2 levels we had to put in a must chiller, which cools the must as it travels from the crusher to the holding tank, dropping the temperature a significant 10°F. We have less worry now about a spontaneous fermentation from wild yeast which is generally inhibited by the addition of SO_2. We allow about 12 hours skin contact time in the holding tank. Juice is gravity-drained from overhead tanks and the must falls directly into a gentle membrane press.

"For reds, we buy Lake County Cabernet Sauvignon, which is our largest-selling red varietal, followed by Zinfandel. Lake County varietals tend to make earlier drinking and softer wines. They have lots of varietal and soft vegetative character and we process them so that we have a short fermentation on the skins that doesn't allow pick-up of phenolics. We don't use new oak for Lake County wines so that they don't pick up barrel phenolics. Barrel ageing for 12 months tends to soften our Barrel Select and Reserve wines. After six months' bottle age, the Lake County reds are just about ready to drink.

"Vineyards are classified for our different Chardonnay bottlings. We do that early in the season just by looking at the vineyard, knowing its history, picking grapes at different sugars, and giving them a different processing. Wine going into Sundial Chardonnay is picked earlier at lower sugar levels because we want varietal character but a softer, simpler wine.

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"Barrel Select Chardonnays come from vineyards with potential for more intense fruit and complexities of character which are barrel-fermented. We now ferment 3,000–4,000 barrels annually since beginning barrel fermentation in 1977 with 50 American oak barrels. 220 Limousin oak barrels were used in 1978, and 380 in 1979. Bois du Centre barrels of harder wood began replacing Limousin in 1980 as barrel fermentation increased to 600 barrels. 1981 saw 1,500 barrels used for fermentation and the amount has increased about 500 every year through 1985.

"Lots that go through the Barrel Select process have some barrels that are better than others and we take the very best for the Reserve wine in the years when we have enough. We make the Sundial, then choose for the Reserve and last the Barrel Select about November after the harvest. If some of the Barrel Selects don't develop intensity or don't complement the blend, they end up in the Sundial.

"We have two wineries–one for red and another for white; therefore, we don't have a confusion of priority. Often, when there's only a single facility, the priority is always with whites because they have an immediate need for processing. A red might slip to the side because you have to take care of the needs of the white wines."

Fetzer currently markets Cabernet Sauvignon, Chardonnay, Chenin Blanc, Fumé Blanc, Gamay Beaujolais, Gewurztraminer, Johannisberg Riesling, Petite Syrah, Pinot Noir, and Zinfandel along with Premium Red, White, and Rosé. A second label, Bel Arbres, is for blanc de noirs wines only.

"We are de-emphasizing Chenin Blanc and Riesling," states Fetzer. "People are losing interest in Chenin Blanc. Consumers have put it in the jug category. We've cut back on Riesling in favor of Gewurztraminer. We sell all of the Gewurztraminer we make. Next to Gallo, we have the largest sales of Gewurztraminer."

Bel Arbres began as a private label in Michigan and was developed into a second label by Fetzer to market inexpensive and bulk-purchased varietals. In the early 1980s, Diane Fetzer produced limited quantities of wines different from the Fetzer mainstream in a separate facility. Today, the Bel Arbres label is used for blush-colored wines made at the Fetzer winery. They are similar in style: about 10% alcohol, 1-2% residual sugar, high acid, and low pH.

Bel Arbres production in 1982 consisted of 7,000 cases of white Zinfandel which increased to 25,000 cases in 1983 along with 2,500 cases of white Cabernet. 1984 production expanded to 60,000 cases of white Zinfandel, 10,000 cases of white Cabernet, 3,500 cases of white Pinot Noir and 30,000 cases of California Blush, a blend. 1985 production of all four categories is expected to be increased.

"Because of recent poor harvests in France," says Fetzer, "We have geared up for Chardonnay sales in 1986. We are looking forward to increasing Cabernet Sauvignon sales in 1986, as well.

"We sell 48% of our wine outside California and our total sales are 75% white. When we built the winery back in 1968, we were 75% red. We are seeing a red wine boom. We are putting more emphasis on red wines as red sales have increased about 2% each year for the last six years. It could be trendish, but we are going to be ready to respond. I believe that in the not-too-distant future we will see Chardonnay being used for generic blends."

Speaking 'conservatively' about production goals, Fetzer concludes, "We will have to double the facilities by 1990 for production of 1,000,000–1,300,000 cases–mainly in Chardonnay and Cabernet Sauvignon. Our growth reflects the wine market's demand for reasonably-priced premium varietals."

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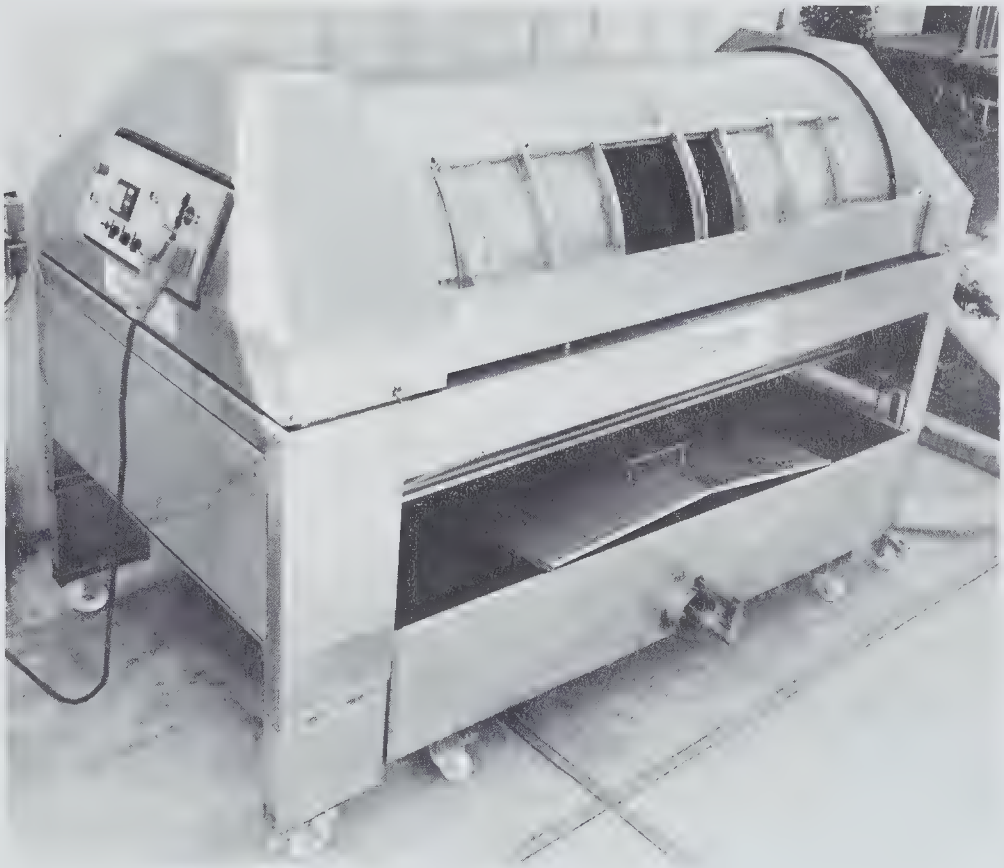
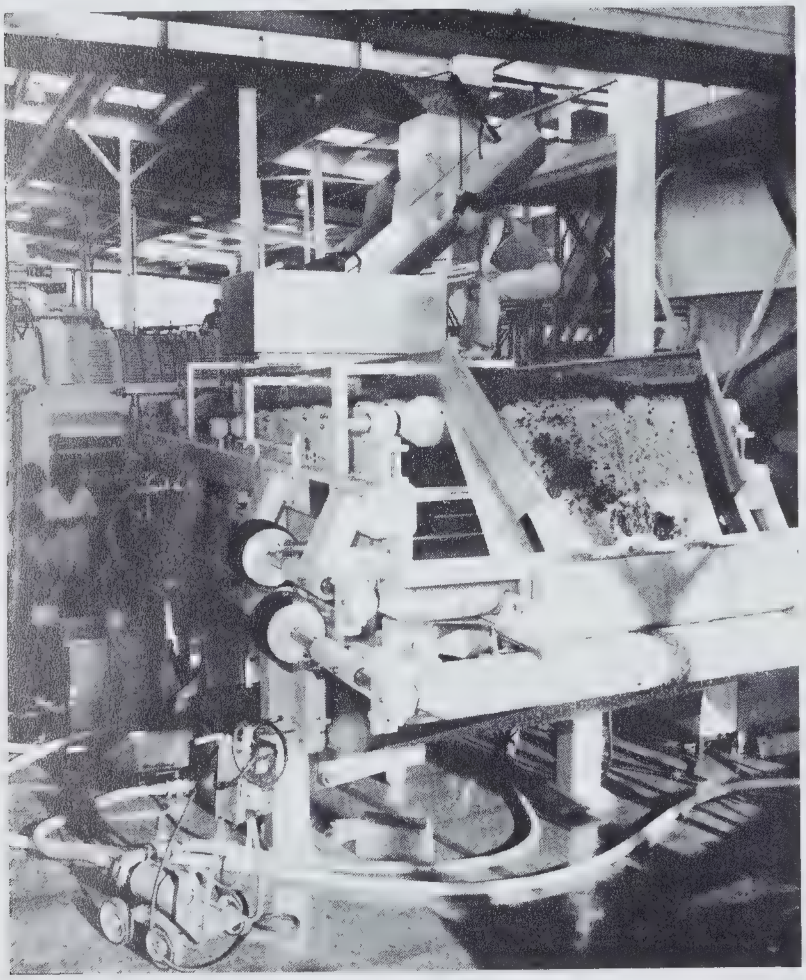


All stainless steel 2600 PLE with auger-pan.

New Press Installations

A variety of new sizes and model designs of presses from many manufacturers were installed in wineries for the 1985 harvest. *PW* conducted a survey of many of the winemakers to identify advantages of the new units.

Manufacturers included Arus/Andritz with a belt press, Bucher with four new sizes or designs, Diemme with a tank press, Europress with a new larger-sized membrane press, Fischer & Schug with a larger-sized membrane press, a large Pera Combi (continuous/impulsion) unit, three new sizes of the Vaslin CEP, and new design modifications in the Willmes UP membrane press series. Valley Foundry & Machine Works installed a new design dejuicer.



The NOLM continuous belt filter press in operation at Domaine Chandon, Yountville, CA.

Domaine Chandon purchased a NOLM continuous belt filter press for the 1985 harvest. The NOLM press has been used in Europe since 1982 for juice extraction. The press was developed by Sernagiotto and Arus-Andritz, of Arlington, TX.

The NOLM is continuous and allows only 60 seconds of skin contact time for minimal color extraction favorable for blush and sparkling wine production. At Domaine Chandon, whole hand-picked or mechanically harvested fruit was conveyed to the headbox of the press. At that point, free run juice passed through the porous belt and the remaining fruit passed to the 'wedge' section of the press.

In the 'wedge' section, the fruit was gradually pressed between two converging porous belts moving at the same slow speed, creating a gentle pressing with no maceration. From the 'wedge' section, the fruit entered a 'high pressure' section where the fruit, trapped between the two porous belts, serpentine wraps around rolls for final juice extraction.

The pressure was continuously controlled by pneumatic belt tensioning which did not break stems and seeds or crush second-crop fruit. After the last roll, the pomace was removed by doctor blades and conveyed to a screw press for final extraction of juice which was not used for sparkling wine production.

Dawnine Sample-Dyer, winemaker, reported yields of 155 gal/ton from hand-picked whole cluster fruit when processing 12 tons/hour. She reported that total phenols were low, there were very good flavors, but high solids that were settled and racked off prior to fermentation. Labor savings may pay for the press very quickly.

Inquiries on NOLM equipment to: Arus-Andritz, 1010 Commercial Blvd., So. Arlington, TX 76017 (817) 465-5611 or Tom Switalski, 530 W.Cutting Blvd., Richmond, CA 94804 (415) 232-8020.

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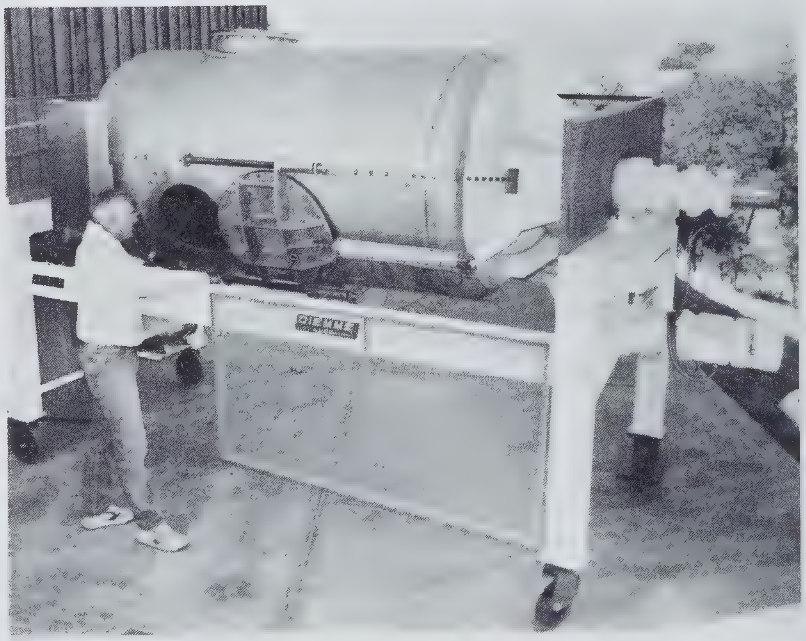

Terry Peterson inspects his new Diemme 3,000-l tank press at Mission View Winery at San Miguel, CA.

Mission View Vineyards & Winery purchased a Diemme tank press, introduced to the USA this year. When loading the press by axial feed, a siren sounds in the control panel when the press is full, telling the operator to stop the must pump. The juice outlets can be closed and the press used as a skin contact tank. A vacuum pump is included to deflate the membrane but an auxiliary air compressor is necessary for inflation of the membrane. The press will be available in 6,000-l and 13,000-l capacities for 1986 delivery.

Terry Peterson, owner-winemaker of Mission View, ran 90-minute press cycles on Sauvignon blanc, Muscat and Zinfandel. The press can handle 7-8 tons of crushed grapes, 9-10 tons of crushed and destemmed grapes, or 11-13 tons of fermented grapes.

Pindar Vineyards in Peconic, New York, also purchasd a Diemme 3,000-l tank press and was able to press 2 ½ – 3 tons of uncrushed red grapes for blanc de noirs per load. Alan Kinne, winemaker, axial-fed up to six tons of white grapes per load and used a 50-minute press cycle on vinifera white grapes. Kinne used the press as a skin-contact vessel for white grapes twice. The press handled 8-9 tons of fermented red grapes per load in a 40-50 minute press cycle. Kinne reported the juice had very low solids and the press was easy to clean.

Inquiries on Diemme equipment to: Prospero's Equipment Corp., 715 Arroyo Ave., San Fernando, CA 91340 (818) 365-4403 OR 840 Piner Rd#14, Santa Rosa, CA 95401 (707) 523-2900 OR 134 Marble Ave., Pleasantville, NY 10570 (914) 769-6252.

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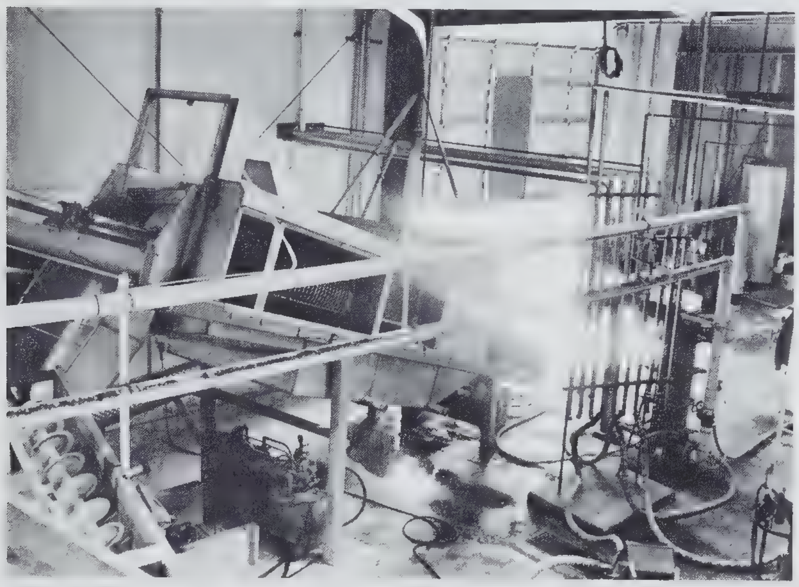

800mm dejuicer installed at Corbett Canyon Vineyards, San Luis Obispo, CA for the 1985 harvest.

A new 800mm dejuicer built by Valley Foundry & Machine Works was installed ahead of a 600mm continuous press at Corbett Canyon Vineyards. The unit has an outboard bearing support on the discharge end to keep the screw off the screens minimizing grape shearing. There is a hydraulic ram on the feed end of the unit to push the last portion through at the end of a batch. The first section of the screw has a wiping rubber on the screw-edge to help move fruit along.

Jim Huntsinger, vice-president of production, reported that the unit produced juice for white Zinfandel at 145-155 gal/ton with just over 100ppm total phenols and 3-5% solids. Chardonnay, Pinot blanc, and Pinot noir were dejuiced at 145-150 gal/ton for methode champenoise production. All fruit was crushed and destemmed but no SO_2 added until the fruit reached the continuous press beyond the dejuicer. The unit handled a 25-ton batch in 40 minutes.

Inquiries to: Valley Foundry & Machine Works, 2510 S. East Ave., Fresno, CA 93706 (209) 233-6135.

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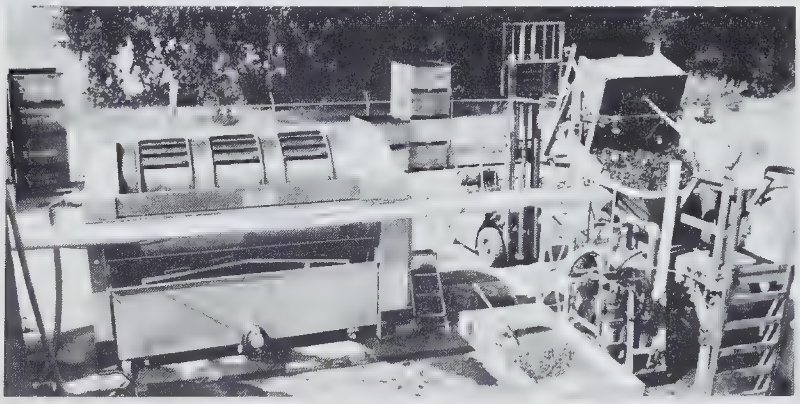

Zinfandel is axial-fed from the crusher to the new Fischer membrane press for white Zinfandel production at Santino Winery, Plymouth, CA.

Santino Winery has purchased a 5200 PLE Fischer membrane press which has an axial feed which was used on all grapes. Winemaker Scott Harvey was able to handle 16-ton lots for blanc de noirs production.

His press program cycle times were three hours on blanc de noirs, two hours on white grapes and 1.5 hours on fermented red grapes. The doors slide around the drum to allow quick unloading.

Inquiries on Fischer equipment to: Fisher & Schug Winery Equipment, 940 Dowdell Lane, St. Helena, CA 94574 (707) 963-7000

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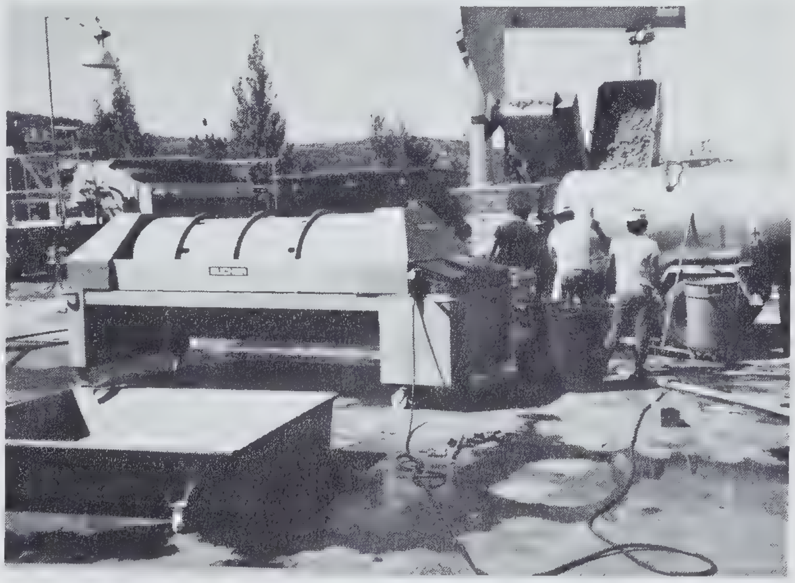

San Pasqual Vineyards, Escondido, CA received a portable Bucher RPS 27 for the 1985 harvest.

The RPS 27, a new 2,700-l Bucher tank press model, was installed at San Pasqual Vineyards. The model has two circumferential sliding doors, a self-contained 100 cubic liter/hr compressor and vacuum pump combination, and the option of

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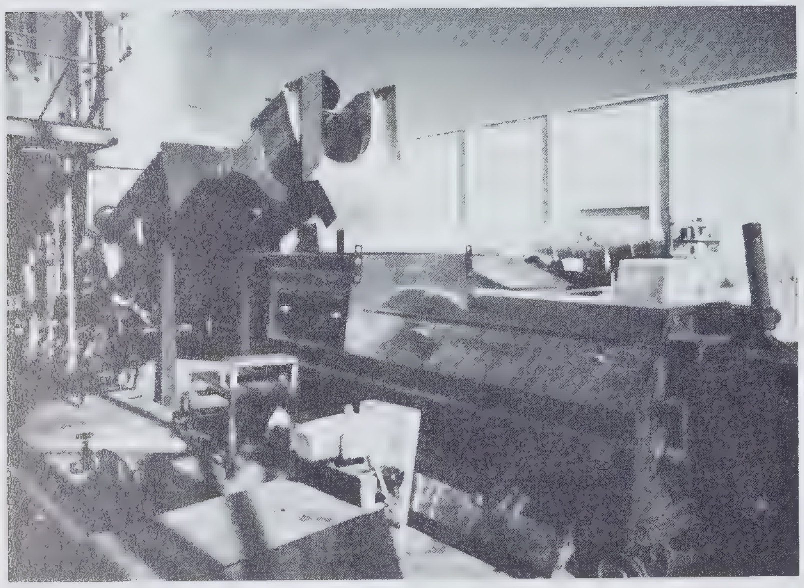
axial feed. The RPS series also has 3,700 and 5,000-l units available.

David Pearson, San Pasqual enologist, reported maximum load capacity of six tons of crushed (un-drained) white grapes. 3 ½ ton loads of Cabernet Sauvignon were pressed for Cabernet blanc production with yields of 149 gal/ton. Total pressing cycles for white grapes were 45-60 minutes. The press capacity is 7.5 tons of fermented red grapes. Pearson reported superior juice quality with 2-3% solids and high yields. Pearson also reported satisfaction with the accuracy of the programming, ease of pressing and ease of clean-up.


One of two new Pera 800 Combi presses in position behind a Pera 750mm Dejuicer at San Martin Winery, San Martin, CA.

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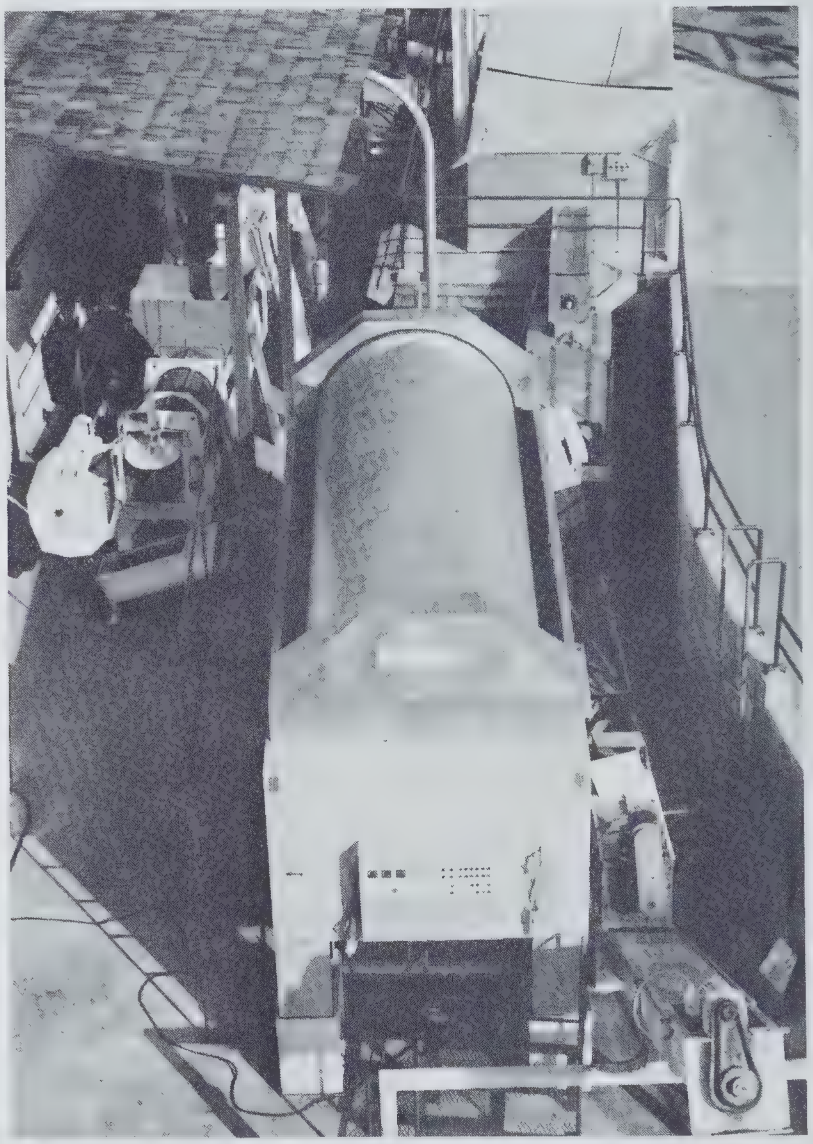
Ron Niino, winemaker/general manager of San Martin Winery installed two Pera 800 Combi Presses this year to expand his pressing capacity to meet his production needs. The Pera 800 Combi can be operated as an impulsion, or continuous press, or in a combination of the two modes.

Niino visited several installations in France last year to observe the combination of flexibility and juice quality of the Pera Combi press. He felt that multiple batch presses would be more expensive than the two 800 Combi presses and that he could achieve comparable juice quality based on his observations in France.

Niino has achieved solids of less than 1% and yields in the 180 – 190 gal/ton range. The capacity of the 800 Combi is in the 20 – 22 ton/hour range on white grapes when operating in the combination mode.

Features of the unit include: a) positioning of the screw in the cage anywhere along the stroke of the screw; b) only one screw which is not supported at the discharge end as is common with other impulsion designs; c) separate control panel and hydraulic package which can be mounted in a remote location if necessary; d) hydraulically operated door shaped to break off the cake, eliminating the need for a cake breaker.


The EHP12000 Europress on the press pad at Estrella River Vineyards, Paso Robles, CA.

Estrella River Vineyards purchased an EHP12000 Europress, the largest made by Scharfenberger, a German manufacturer and first of that size installed in the U.S. The membrane press handled up to 40-ton lots of crushed white grapes when the axial end-feed was used. Winemaker Tom Myers reports that solids and other juice constituents were such that he could use all of the press juice as free run.

Myers found his yields to equal or surpass the continuous press he has been using at 180–190 gal/ton, but he did not have to keep press fractions separate. The press was used on Zinfandel to produce 155 gal/ton of juice for white Zinfandel and 25 gal/ton additional press fraction. The press handled loads of up to 48 tons of fermented red grapes.

Time required for a full cycle from start of filling to final cleanup was three hours on white grapes and 2.25 hours on reds. Maximum loading time for whites was 1 hour, 20 minutes and unloading time was 20 minutes. Solids on press juice was 1% or lower and 4-6% on free run juice. Free run solids varied considerably, depending on the grape being pressed.

Myers commented that although throughput was reduced, this was outweighed by higher yield and quality. Also, he noted that manpower requirements were slightly reduced and pressing required one less pump.

Inquiries on Europress and Pera equipment to: Process Engineers, Inc., 3329 Baumberg Ave., Hayward, CA 94545 (415) 782-5122.

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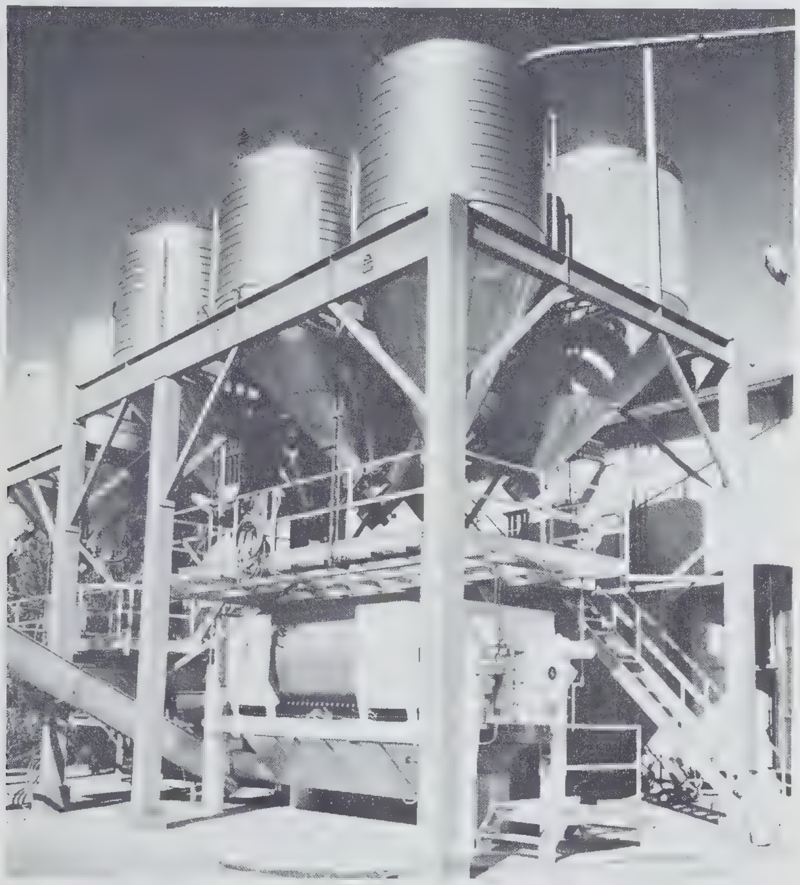
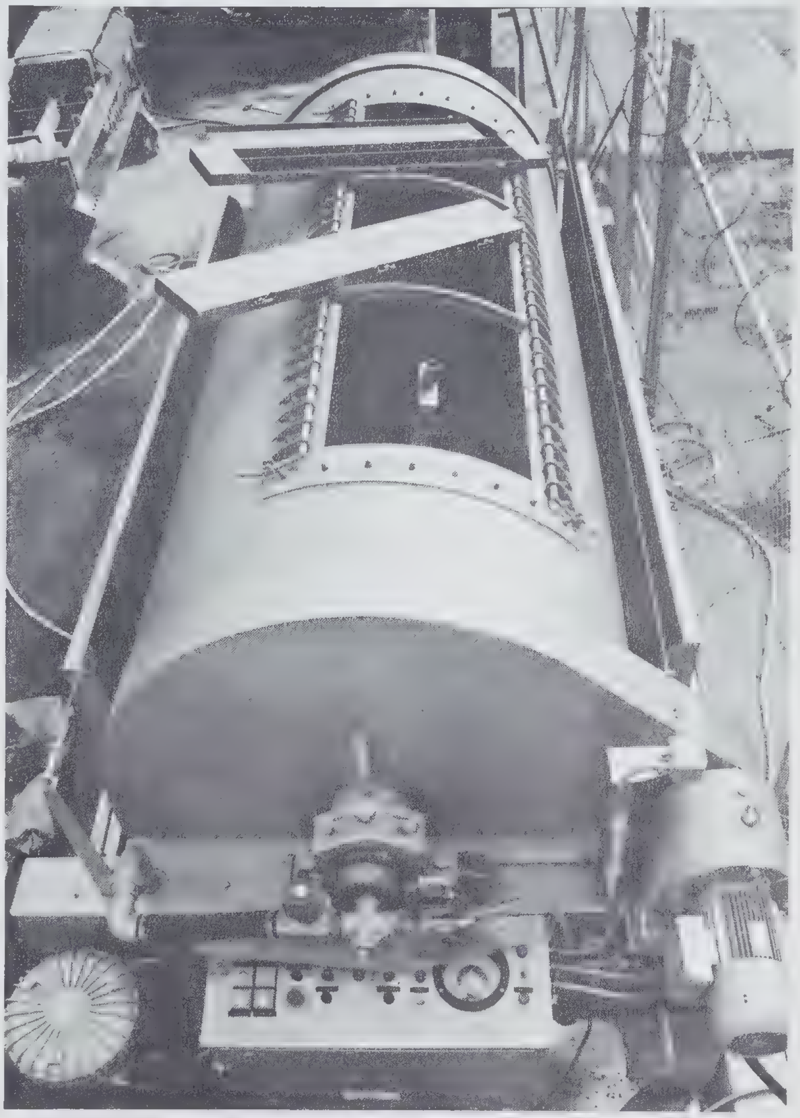


A new Willmes TP-12 with two doors in position under a system of six drain tanks at Château St. Jean, Kenwood, CA, designed by Winery Equipment Systems.

Chateau St. Jean has added a new TP-12 12,000-L Willmes tank press to their existing TP-8 8,000-L Willmes tank press and a bladder press. The press is the first TP-model installed in the U.S. with axial feed and it has an automatic diaphragm safety valve to prevent over-pressurization by a must pump when the press is being loaded by axial feed.

Approximately 19 tons of drained white grapes filled the press in five minutes and were pressed in average cycle times between 1 hour, 50 minutes and 2 hours, ten minutes. Unloading and cleaning required 30–45 minutes. Richard Arrowood, winemaker, notes that the juice quality seems improved in the larger model over the smaller tank press.



The new Willmes UP5000 with three trans-axle drain screens, one in position in the press, one opened up for cleaning and the third on display.

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Craig Winchell, winemaker for Yayin Corp. in Forestville, CA, used a new Willmes UP5000 with axial feed and new trans-axle drain screens. He was able to load 14 tons of crushed white grapes direct from the crusher/stemmer into the 5,000-l press and achieve yields averaging 176 gal/ton from a 1.5–2 hour press program. The UP5000 has three easily-removable and easy-to-clean drain screens which significantly increased the drainage area over the previous design of only draining through the door screens.

Husch Vineyards, Philo, CA, received a Willmes UP3000 with two new drain screens and axial-fed 10–12 tons of Sauvignon blanc, Chardonnay, or Gewurztraminer into the 3,000-l press after overnight skin contact. Mark Theis, winemaker, used press programs between 1.5 and 2.5 hours. The press held between 12–14 tons of fermented red grapes. Theis reported less solids with prudent spinning while axial-loading over his previous press and lower pH's in his press juice. Unloading took ten minutes and clean-up at the end of the day required one hour.

Inquiries on Willmes equipment to: SEN Machines, Inc., 3095 Kerner Blvd., Suite G, San Rafael, CA 94901 (415) 457-5155.

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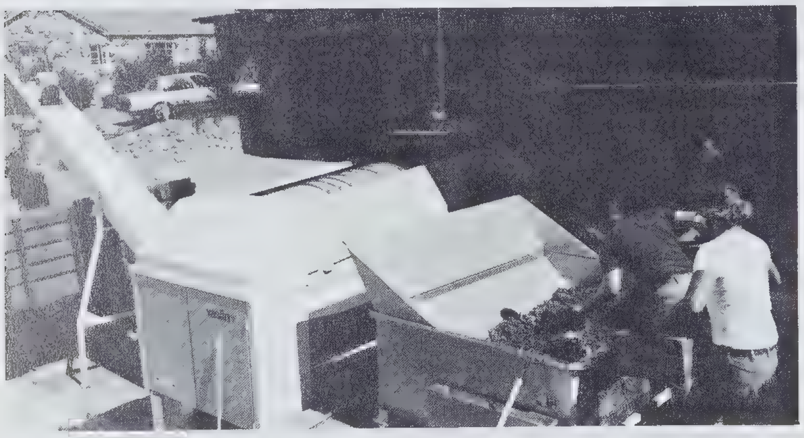

The new Vaslin CEP 650 at Shenandoah Vineyards, Plymouth, CA.

A Vaslin CEP 650, a new-sized Vaslin CEP, was installed at Shenandoah Vineyards for the 1985 harvest. CEP stands for Centre de Egouttage et Pressurage, which translates into English as center for dejuicing and pressing. The press drum is positioned on a slope to facilitate the drainage and filling by gravity.

The loading door is on the end of the press to allow loading while the drum is rolling. The drum is available in inert fiberglass and the plates can be stainless steel or epoxy-coated mild steel. The CEP 650 press comes with three automatic programs. The CEP 1000 and CEP 2000 are available with four automatic programs. Winemakers may implement their own program cycles. In the automatic pressing cycle, a programmable electronic sensor provides control of the amount and rate of juice extraction by adjusting the plate pressures appropriately and minimizing crumbling of the cake.

Leon Sobon, winemaker/owner, put 6 to 8-ton loads of Zinfandel in the press when producing juice for white Zinfandel. His complete cycle time for loading, pressing and unloading was two hours. Sobon put 12–14 tons of fermented Zinfandel grapes and 9–10 tons of fermented Cabernet Sauvignon grapes per load through the press. Sobon noted that the automatic cleaning devices worked well and clean-up at the end of the day took 15 minutes. Sobon reported settlings of white Zinfandel juice at 12–14%.

Inquiries on Vaslin equipment to fp Packaging, Inc., 229 Ryan Way, S. San Francisco, CA 94080 (415) 871-5497.

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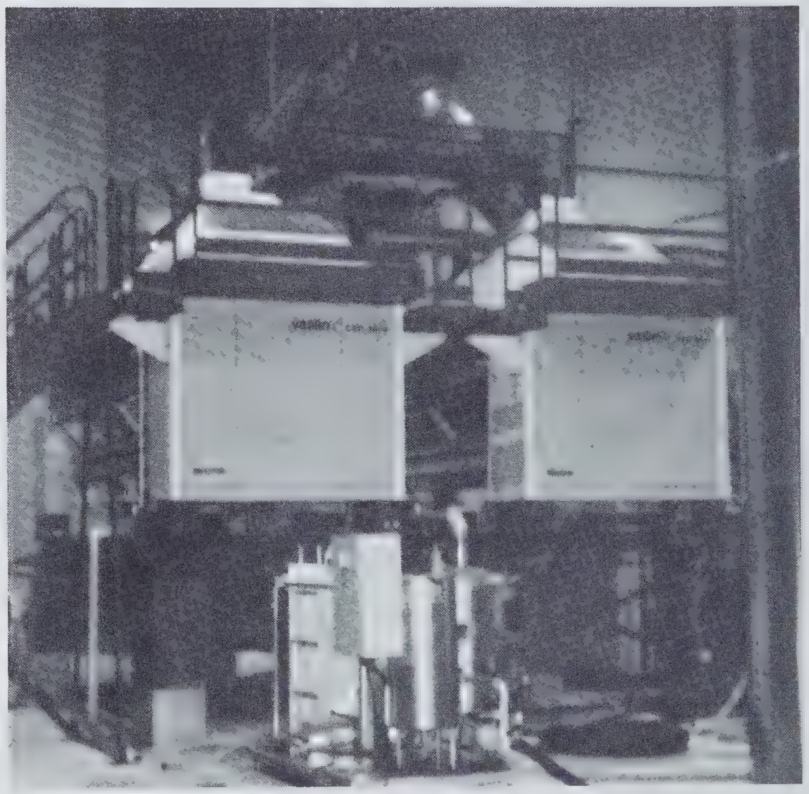
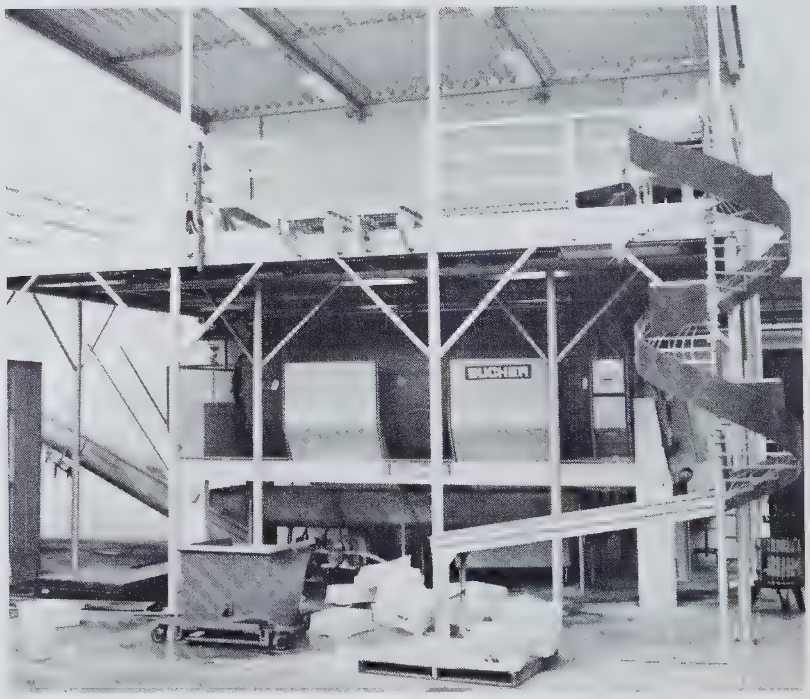


Two of the three 22-ton CEP 2000 presses in the 'turnkey' installation by Vaslin with four Vaslin Vinimatic 350hL rotary fermenters complete with conveying system at Ste. Genevieve Vineyards in Ft. Stockton, Texas, installed in 1985.



Domaine Mumm's Bucher tank press at their press pad built to handle 40-lb boxes of whole-cluster fruit in Calistoga, CA.

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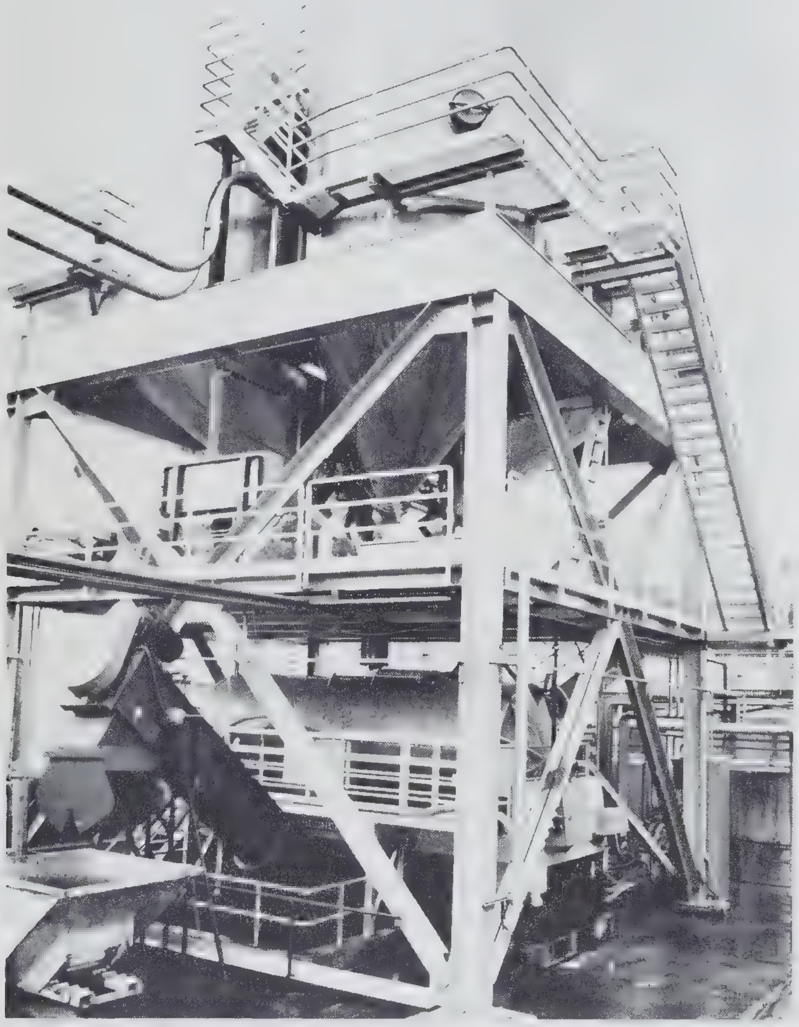
Domaine Mumm installed a Bucher RPM 140-2 RE press which handles an average of 12 tons of whole-cluster fruit for processing of grapes by methode champenoise. The 14,000-l press has two doors for filling from 40-lb fruit boxes and a control panel positioned separate from the press for maximum operator control of activities besides pressing.

The press also has a special RE Microprocessor Controller to operate the press in accordance with Champagne district requirements as laid down by the Comite Interprofessionel du Vin de Champagne. The Controller allows small stepwise pressure increases with minimal rotation.

Jim Gifford, winemaker, reported loading times of 30–45 minutes and press programs of 3 ½ hours. 30–45 minutes were required for unloading and cleaning. Gifford found the press to produce very low solids, low phenolic extraction, and very little color pick-up.



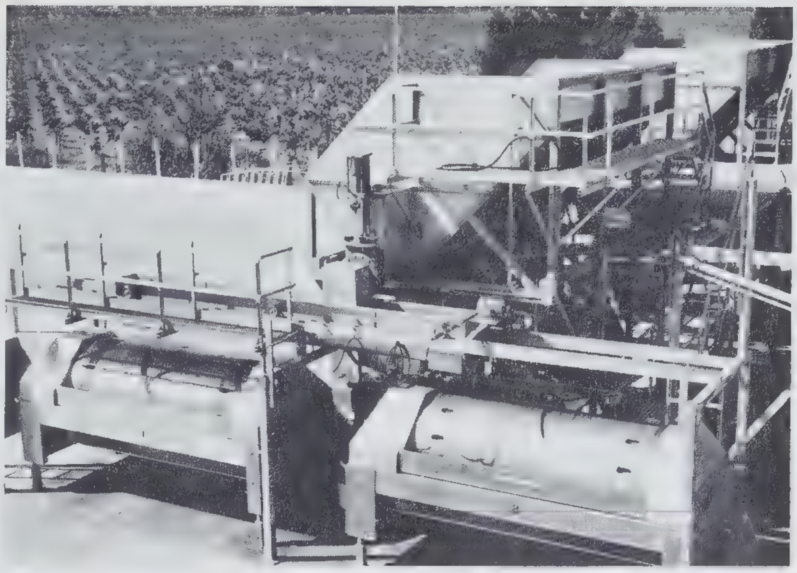
Beringer Vineyards' new Bucher tank press positioned under four 50-ton Mueller drain tanks at the St. Helena, CA winery.

A Bucher RPM 225, the largest tank press manufactured by Bucher and twice as large as any previous Bucher RPM previously installed in the USA, was placed at Beringer Vineyards for the 1985 harvest. The 22,500-l press can receive 45-50 tons of drained white grapes per load.

Ed Sbragia, winemaker, reported that they handled 45 tons/press load of grapes for blanc de noirs. Total press cycles averaged two hours each. The press handled 50-55 tons of fermented red grapes per load. Sbragia reported good quality juice low in phenolics and solids and higher yields over previous press systems.

Wente Bros. was one of several wineries to install a Bucher RPL 52 open-basket enclosed membrane tank press for 1985. This press is Bucher's largest size in that design. The press is portable, has self-contained air supply and four 18-inch x 25-inch filling doors.

Wente placed four of the 5,200-l presses at its winery to completely replace the previous pressing system. Two additional presses went to a Sacramento Valley Delta vineyard site. Willy Joslin, winemaker, reports that the key to the new system is the four sliding doors running the length of the press which facilitate rapid loading of whole cluster and non-screened mechanically-harvested grapes.



Two Bucher RPL 52s positioned under one of the grape receiving hoppers at Wente Bros.' press pad at their Livermore, CA winery.

In the past, a Garolla-style crusher was necessary to remove canes, sprinkler heads, etc. from the must, which was then pumped axially into the previous presses. Now grapes are gravity-fed whole cluster or through a roller-crusher into the Bucher presses. The machine-harvested fruit can be crushed to any degree desired in Wente's cart-mounted roller crushers, built by Valley Foundry. The carts travel in the vine rows adjacent to the harvesters and carry stainless steel tanks used for transporting grapes to the field-located press. An additional advantage is that the presence of stems in roller-crushed and whole berry fruit acts as a press aid for juice extraction.

Two grape-receiving hoppers with dejuicing capabilities were built by Valley Foundry to receive grapes from field tanks. The hoppers have bar-screen bottoms and lower juice pans to facilitate quick batch press loading of partially-drained grapes. The screw in the hopper may be run and reversed to accelerate dejuicing. Movable transverse conveyors expedite the press loading process, thus shortening the overall press cycle.

Joslin loaded the RPL 52 with 5–8 tons of whole-cluster fruit or up to 12 tons of drained roller-crushed white grapes. About six tons of whole-cluster fruit made up a load for blanc de noirs production and required a one-hour press cycle. The press was loaded in ten minutes, and unloaded in the same amount of time. Press programs ranged from 0.6 atmospheres to 1.5 atmospheres over 45–90 minutes. Semillon grapes took the least time and Sylvaner the most time to press.

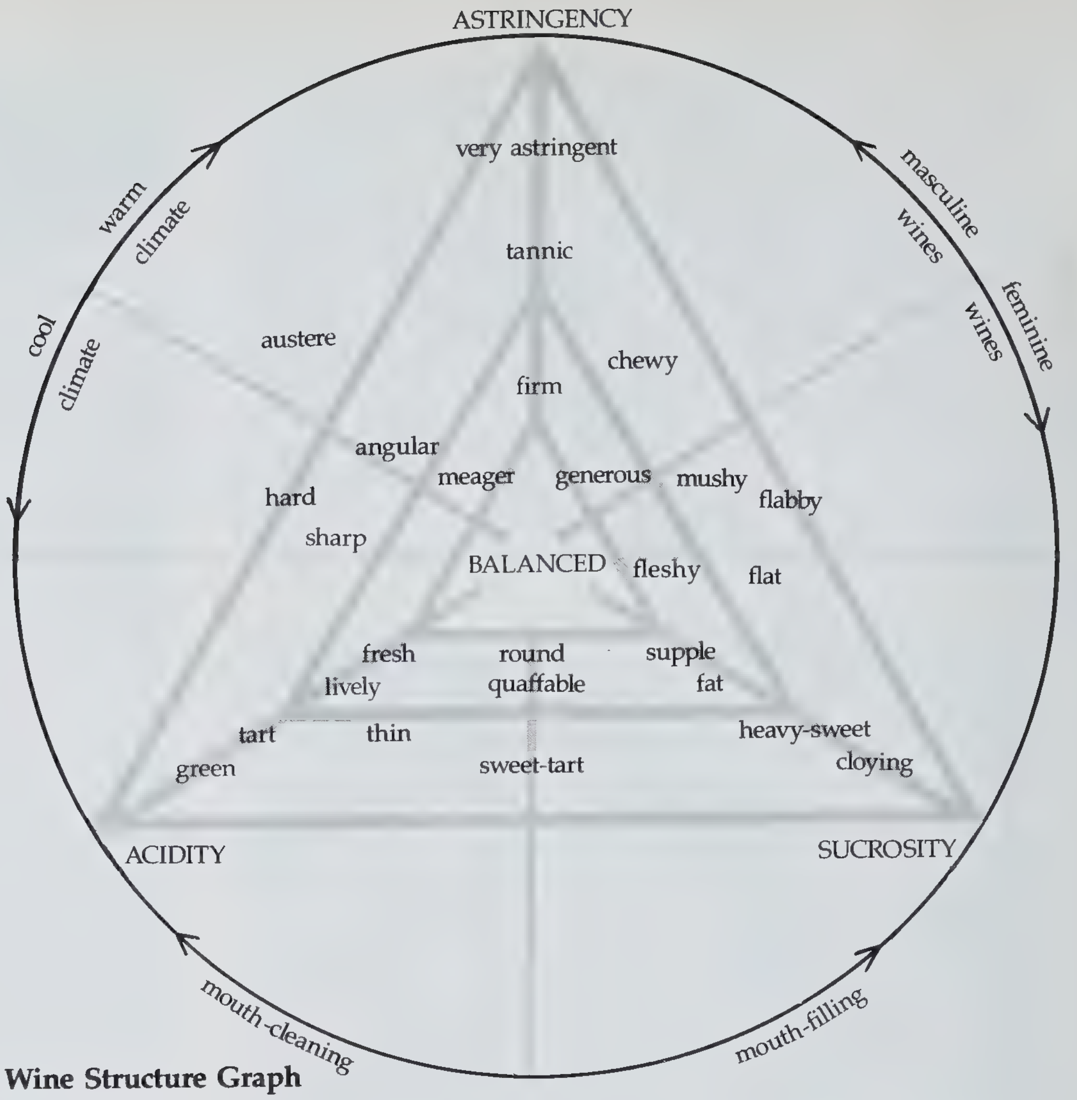
Joslin reported on the juice quality with a reduction of potassium by 20–40% and reduction of phenols by up to 50% from 300 gae to 200 gae +/-50 over the previous Garolla-crusher/basket press system.

Vichon Winery, Oakville, CA, also took delivery of a Bucher RPL 52. Winemaker Michael Weis reported handling loads of 18 tons of red fermented grapes in the press and a pressing cycle of 45 minutes. He used 90-minute press programs on white grapes and the axial-feed with Semillon, Chardonnay and Sauvignon blanc. Weis reported excellent juice quality with low solids and low phenols.

Inquiries on Bucher equipment to: KLR Machines, Inc., 1925-B Francisco Blvd., San Rafael, CA 94901 (415) 456-4774 OR 47 West Steuben St., Bath, NY 14810 (607) 776-4193.

SEE OUR AD PAGE 17

Describing Wine Structure Clearly



Vedel's Red Wine Structure Graph

Circles and triangles—these geometric shapes are being used as aids in the attempt to describe something as elusive as the taste of wine. Dr. Ann Noble's well-known 'aroma wheel' is one example; Andre Vedel's three-dimensional graphic representation of wine structure is another. Both attempt to bring objectivity to a vocabulary that too frequently deteriorates into meaningless and pompous jargon.

The rationale behind objectifying wine language may not, at first, be apparent. Most people in the wine industry, as well as many consumers, know what is meant by a 'big' wine, for instance. They may speak of a 'bold' or a 'sensuous' wine. The distinction between 'aroma' and 'bouquet' does not confuse them. A statement such as '3.4 pH at bottling' has meaning for these people. They are familiar, as well, with the UC Davis 20-point scale for judging wines.

Problems occur when such terms are misused or used out of context. For instance, the term 'big' is extremely subjective; how big is 'big'? At what point does it become a 'monster'? Such a term is not quantifiable. To use it on a wine label could create consumer confusion. One potential buyer might imagine a wine with incredibly high alcohol. To another, the term could mean lots of tannin. Still another might interpret it to mean plenty of fruit. Or it could imply all three, or a combination thereof.

The use of very subjective (and often meaningless) terms on wine labels and in wine columns can get ridiculous. Wines have been described as 'seductive', 'racy', 'full-bodied'—leading frustrated consumers to ask, "Do you drink it, drive it, or make love to it?"

Terms such as 'aroma' and 'bouquet' would seem to be free from the accusation of subjectivity. After all, unlike the above terms, they have specific, objective definitions. The problem here is that the two terms are frequently used interchangeably, even by those who understand the distinction between the two. One may talk of a pleasing 'aroma' in an aged wine, or discuss the 'bouquet' of a young wine. Misusing such objective terms frequently results in consumer confusion.

Even the most objective, straightforward language of all, the language of chemistry and math, can be problematic to consumers when overused. Do most consumers know or care what 3.4 pH may mean in a finished wine? Probably not. To recite harvest dates, levels of sugar and acid at harvest, levels of sugar and acid at bottling, and months in oak does not really tell consumers whether they will like the wine or not. One may want to know the amount of alcohol in the cough medicine one is giving one's child; this is a serious matter. But for most consumers, wine is anything but serious. Knowing the harvest date or the total acidity does not help most people decide whether or not they will enjoy a particular wine.

Similarly, rating scales such as the UC Davis 20-point scale should be read only as the considered opinion of certain judges on a certain day. Rushing out to buy a gold-medal-winning wine while ignoring a silver-medal winner can lead to disappointment. The silver-medal winner may be only a point or so lower than the gold, and may have scored higher on a different day or with different judges. Again, medals and points do not guarantee enjoyment of a given wine.

After all this, what's a creative wine writer or label design artist to do? What language will make sense without talking down to the consumer? This, of course, is the rationale for objectivity in wine language. With all the jargon, all the numbers, too many would-be consumers find wine a beverage for the elite, those lucky few who 'know about' wine. It's much easier to buy a six-pack, pop the top, and relax. In short, the wine industry loses sales. The bottom line is that clear, straightforward language sells.

Those involved in writing wine descriptions can start by simplifying their language. Tell consumers what the wine *tastes* like—being as objective and descriptive as possible, without getting bogged down in numbers, and without misusing objective terms. If the wine is a spicy Zinfandel, call it spicy—

don't call it 'bold' or 'racy'. Consumers know what they like, and they don't like to be cheated

Avoiding overblown language is equally important. The 'snob' image is a very destructive factor in wine sales. To state that a particular wine goes perfectly with Chateaubriand or Oysters Rockefeller is to lose the huge section of the populace that dines on fried chicken and hamburgers. Nothing turns people off like talking over their heads – unless it's talking down to them.

Don Blackburn/Barbara Lindblom

Both winemakers and consumers like to have understandable descriptors to help them evaluate and remember wines. To this end, many people have been developing descriptors for wine aromas and flavors. A well-known example is the 'aroma wheel' developed by Dr. Ann Noble of U.C. Davis. The same, however, has not been done for 'mouth feel' (as distinct from flavor) descriptors.

Many winemakers are dissatisfied with the terms commonly used for this dimension, because of a lack of accepted definitions for them. Consequently, consumers have not been provided with useful terminology.

Because of the difficulty in obtaining consistent results from tasting panels when they use subjective terms for a wine's physical structure to address these parameters, sensory analysis researchers find that the results are unscientific. How, for example, could one standardize or avoid the hedonistic character of such terms as 'flat', 'round', or 'fleshy'? The answer is that it is quite difficult, and perhaps impossible, without the development of some referencing for the terms.

In the early 1970s, Andre Vedel, then director of the National Institute of Appellations of Origin's Dijon (France) office, developed a triangular diagram of wine structure. Its three axes reflected three dimensions of red wine structure: acidity, astringency, and 'sucrosity'. 'Sucrosity' is defined as the impression of sweetness independent of the presence or absence of sugar.

Translation and adaptation of this material required some reshuffling and modification of terms to create a more objective body of information in the context of the English language and the New World approach to 'wine talk'. Some terms on the Vedel triangle may seem extravagant and subjective, but they are existing terms used in the wine industry.

Without addressing the legitimacy of these terms, one can utilize the basic approach to wine 'structure' using the triangular format. One problem with the three major axes of the triangle is that (when translated into English) they are not all of the same category. Two are tastes: acidity (sour) and 'sucrosity' (sweet); and the third is a textural quality or sensation: astringency. (The four tastes are sweet, sour, bitter, and salt; salt is not usually associated with wine.) It is possible, however, to create a more complete picture of 'mouth feel' by pairing a taste term and a texture term on each axis.

Acidity and carbonation are a natural 'pair' because they compound one another sensorially; in addition, carbonation can actually be analyzed as part of titratable acidity. Bitterness and astringency are often confused, because in wines the same class of compounds (and even the same compounds) are usually responsible for both sensations. The substances which give rise to 'sucrosity' and viscosity also result in perceived, and even physically measurable, increases in one another.

The three axes of wine structure stand on their own, even without the interior descriptors, just as a relief map does without place names. One can evaluate the degree of intensity of each of the three wine structure characteristics in the same manner used to determine the degree of intensity of specific aromas in wine.

At least three different approaches can be taken in using the triangle. One approach is the 'relief map' method mentioned above. One can chart the wine's 'location' by charting its 'ordinates' in terms of its degree of intensity of acidity, astringency, and sucrosity, and assigning each of them a position on the diagram. One method of assigning intensity is to set up 'slash sheets' for each of these characteristics in wine:

The degree of intensity can be subsequently superimposed onto the triangle (see fig. 2). Each wine can thus have its own visually represented 'structure'. This method proves most helpful in enhancing one's concentration on specifics during tastings. It can be particularly useful in tastings related to blending, and comparisons of various alternative winemaking

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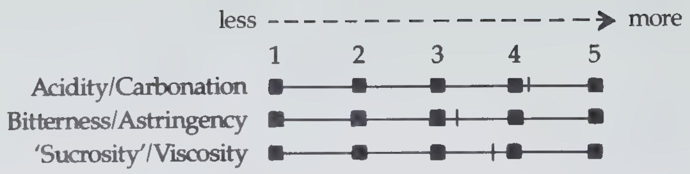
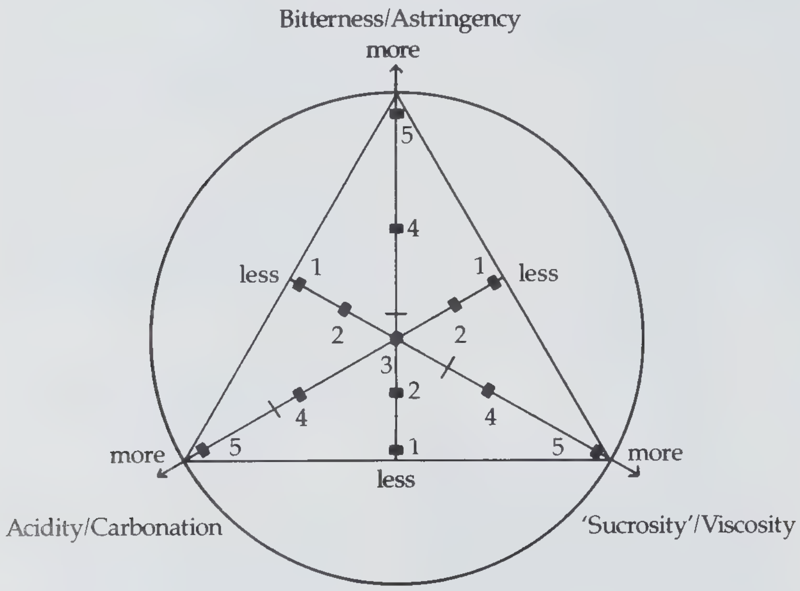
Figure 1



techniques where differences are subtle. This is the approach used most commonly in production tastings at Simi Winery (Healdsburg, CA).

A second approach carries the above one step further by selecting the most appropriate word or words that fall within the ordinates. This method should prove most useful for communication within the industry and with consumers. The terms that have been previously ill-defined could have a common basis for people using the method. The relative location of these ordinates can also provide us with additional perspective on the overall character of the wine, to which terms such as 'unbalanced' or 'harmonious' might be assigned.

Figure 2 **Proposed Taste/Texture Triangle**

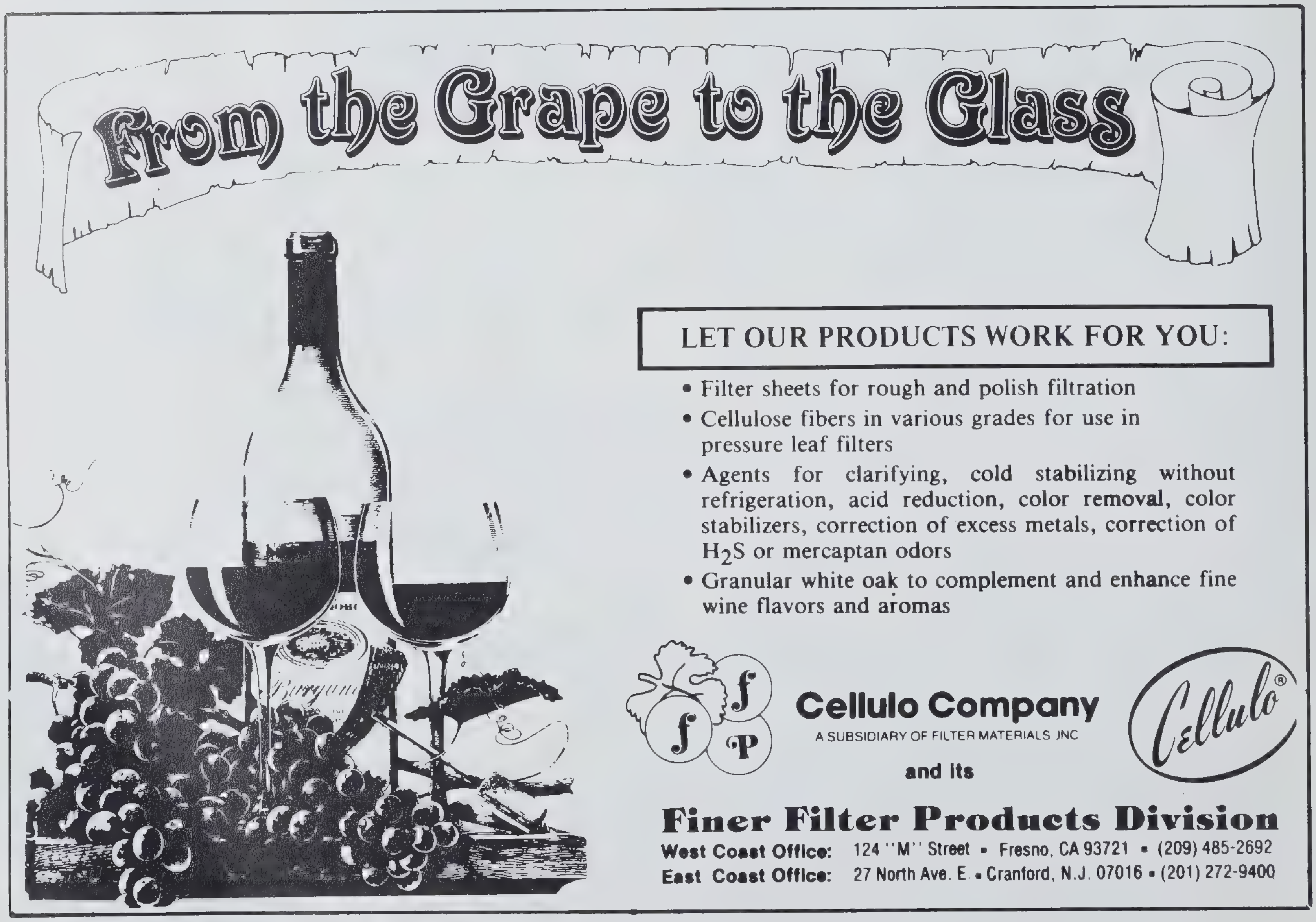


A third approach begins with the more traditional format of tasting a wine and assigning structural-type terms appearing inside the graph. Then one could locate these terms on the graph and establish a visualization of the wine's placement with this structure scheme. This method might prove most useful in establishing an understanding of structure based on overall 'impression'. To begin by using these interior terms of the triangle, however, can lead one to become lost in semantics and unavoidable prejudice if they are used without a common definition such as their placement on this triangle.

Vedel's three-dimensional figure was initially intended for red wine. Vedel related white wine to a two-dimensional graph bearing acidity and sucrosity only. However, it seems appropriate to use all three dimensions of the red wine graph for whites because of the varying degrees of perceived astringency or bitterness in whites.

Descriptive analysis is a way to perceive and understand the 'parts' of a wine. Assessing 'mouth feel' in a descriptive context can prove to be a helpful exercise in concentration and a tool in communication about particular wines and about wine style in general. The use of a visual tool such as this triangle can be a technique by which to put the wine 'back together' in a meaningful way.

Don Blackburn is winemaker and vineyard manager at Elliston Vineyards, Sunol, CA. Barbara Lindblom is laboratory director at Simi Winery, Healdsburg, CA.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Méthode Champenoise: Malolactic Fermentation

Bruce Zoecklein, Enologist—Department of Horticulture
Virginia Polytechnic Institute, Blacksburg, Virginia

> *"But the monarch of all wines is Champagne. Ah, me! How it bubbles, how it sparkles, this most ravishing of all wines! It is at once the most enticing, and the most exhilarating. It is genial, comforting, stimulating, irradiating and divine. It refreshes, regales, cheers and transports."*
>
> *Major Benjamin Cummings Truman*

It is often said that wine palatability is created in the vineyard. This is undoubtedly true for table wines. However, méthode champenoise palatability, more than any other, can be presumed to be created by the vintner. Because méthode champenoise is fermented twice, the overall character is influenced to a greater extent by the maker than with most wines. Choices such as cultivars, maturity, yeast strains, fermentation vessels, secondary fermentation regimes, dosage, etc., can demonstrate a variety of flavor and diversity of style.

Decisions regarding SO_2, for example, not only affect style through possible controlled oxidization, as discussed in the last issue, but also affect additional stylistic practices such as the control of malolactic fermentations. As with table wine production, it is desirable that the vintner determine the possible merits or deficiencies of a malolactic fermentation at the time of harvest and act in concert with that decision throughout the processing life of the wine. For example, surprisingly low levels of acetaldehyde-bound sulfur dioxide can inhibit the growth of *Leuconostoc*, *Lactobacillus*, and *Pediococcus* species in fermenting wines (Hood 1984). Low cuvée pHs help reduce the likelihood of spontaneous bacterial fermentations, although they do occur.

It appears that many California producers are striving to obtain a product which can be described as balanced, delicate with youth, yet with complexity. The prevalent attitude is that high malic acid levels and low pHs add life and freshness consistent with their stylistic goals. Malic acid is considered to be an important part of the palate structure. A bacterial fermentation lowers this acid, of course, with a resultant loss of freshness.

According to René Ménu, cellar master for Piper Heidsieck, malolactic fermentations are to be avoided because not only does the wine lose freshness, it ages more quickly (Dujiker 1980). Some French Champagne producers, however, believe that a malolactic fermentation of the cuvée or a component part of the cuvée can broaden and lengthen the finish and flavor. A malolactic fermentation can reduce the titratable acidity by as much as ⅓, which may help account for the perception of finish. Additionally, the replacement or partial replacement of malic acid with an acid which is not as aggressive on the tongue may also contribute to the stated observation. Many champagne houses that espouse the desirability of a malolactic fermentation are producing méthode champenoise which one can describe as complex, broad in finish, rich, and aggressive.

Beyond style, climatic considerations may help explain why many French houses prefer to have their cuvées undergo a malolactic fermentation.

Total degree days are almost identical in Napa and Champagne. However, the daytime temperature is higher, the nights cooler, and the light intensity greater in Napa. Grapes ripen faster in California and have a higher sugar and lower acid content. The grapes in Champagne may average 1.5 g/100ml titratable acidity while the same varieties in California are often lower. In Napa, Chardonnay grapes are harvested with perhaps 1.1 titratable acidity at 19° Brix and decrease to 0.75 TA in the final product (Maudière 1980). Many French houses put their sparkling wine cuvées through a malolactic fermentation. The result is a wine with the same acidity as the California products where the bacterial fermentation has been prevented.

Table I gives some analytical data from my laboratory comparing European and American méthode champenoise. The major differences illustrated are the high malic acid content (low lactic acid) of the finished product which reflects the general concern of preventing a malolactic fermentation of the cuvées in California.

It can be said that a malolactic fermentation affects the sensory quality of a wine in two ways—simply stated by removing some components and adding others. The perceived benefit of an ML fermentation is that the flavor of the wine is modified

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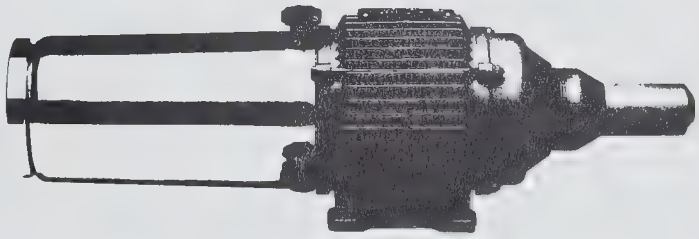

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Table I
Méthode Champenoise Analysis

	Source						
	Napa	**Reims**	**Sonoma**	**Ay**	**Epernay**	**Sonoma**	**Epernay**
Total phenols mg/l	210	261	265	339	290	161	237
Nonflavonoid phenols mg/l	187	239	225	273	280	151	210
Tartaric acid g/l	3.10	3.51	1.99	4.15	3.45	2.45	3.13
Malic acid g/l	4.85	.31	2.89	.28	2.10	4.39	.09
Lactic acid g/l	.15	3.71	.15	3.12	2.09	.10	1.20
Acetic acid g/l	.40	.33	.13	.30	.25	.34	.18
Citric acid g/l	.18	.12	.60	.18	.14	.18	.12

and increased in complexity. This benefit is largely based on anecdotal evidence rather than on good experimental data. Several researchers have indicated that tasters could not tell with statistical reliability whether a wine had undergone a malolactic fermentation (Radler 1968, Rankine 1972, Silver & Leighton 1981) or whether the wine had been de-acidified by a malolactic fermentation or by potassium carbonate (Castino et al 1975).

According to Peynaud (1984), the following lactic acid bacteria have been found in wines:

Homofermentary cocci	*Pediococcus cerevisiae*
Heterofermentary cocci	*Leuconostoc gracile* *Leuconostoc oenos*
Homofermentary bacilli	*Lactobacillus plantarum* *Lactobacillus casei* *Streptobacterium*
Heterofermentary bacilli	*Lactobacillus hilgardii* *Lactobacillus fructivorans* *Lactobacillus desidiosus* *Lactobacillus brevis*

Each has the ability to produce different metabolites which presumably can affect the sensory characteristics of wines. This may be particularly true with sparkling wines due to the magnifying effect the sparkle has on the perception of odorous components. Many winemakers would claim to be able to distinguish wines, particularly white wines, that have been through a malolactic fermentation. The key to such identity may be the buttery overtones of diacetyl, which seems to be a feature of wines in which *Pediococcus* sp. have grown (Dittrich & Kerner 1964, Mayer 1974) and is not considered to be a quality characteristic. Higher levels of diacetyl are produced in wines of lower pH (Margalith 1981). Additionally, sweaty, doughy flavors are often found in wines where *Lc. oenos* is probably responsible for malolactic fermentation.

Lactic acid bacteria growing in wine can reach cell populations as high as 10^6–10^8 cells/mL, which is equivalent to the cell populations of yeast (Fleet 1984). Yeast metabolic activity causes a dramatic transformation in the chemical composition of grape juice to yield wine. By comparison, the growth of lactic acid bacteria undoubtedly results in significant changes in wine.

Enzyme products generated by lactic acid bacteria are believed to survive and act on wine constituents long after the bacterial cells have been removed (Law & Kolstad 1983). Such enzymes include proteases, lipases and esterases. It would be of interest to know the extent that such enzymes might contribute to the sensory properties of méthode champenoise. Since esters are major flavor components in wines any residual esterase activity could be significant.

Lactic acid bacterial growth results in a change in the amino acid content of the wine. No consistent trends have emerged except to note that with *Lc. oenos* there is an increase in ornithine and a decrease in the arginine concentration following fermentation. The effect this may have on the sensory aspects of méthode champenoise is unknown. Additionally, there are lactic acid bacteria which can bring about the degradation of proteins. It is not known if any wine proteins are degraded by these organisms.

Autolytic products so far defined in méthode champenoise according to Randall (1985) are listed in Table II.

The fact that a malolactic fermentation increases the concentration of acetic acid (from 0.2g/L to about 0.4g/L), ethyl acetate, acetoin, diacetyl and total nitrogen has added to the presumptive conclusion of increased complexity. Little is known about the relationships between those compounds listed in Table II and the incidence of malolactic fermentation (Fleet 1984).

Table II

Carbohydrates	
Nitrogenous substances:	free amino acids peptides polypeptides (enzymes)

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Biotin

How bacterial enzymes and other metabolites interact with these and perhaps other yeast autolytic products and the overall sensory profile is yet to be resolved. We know that the simple elevation in pH which occurs from a malolactic fermentation causes a considerable increase in the rate of autolysis. For example, the amino nitrogen content of a wine stored at pH 3.3 at 50°C is double that of a wine stored under identical conditions with a pH of 2.9.

Some méthode champenoise producers appear to be utilizing malolactic fermentations as a means of helping to control the palate structure. Partial bacterial fermentations may be a method of modifying the sweet-sour perception one experiences occasionally with M.C. produced from low pH/high T.A. cuvées.

There are several important growth properties of lactic acid bacteria which make control difficult. These organisms are ethanol-tolerant (10–15% v/v), pH-tolerant (to as low as pH 3.0), can grow at low cellar temperatures (10–20°C), and have the ability to grow under very low oxygen tension. Méthode champenoise producers are not safe from spontaneous bacterial fermentations simply due to the low pH values of their cuvées. From 80 isolates studied, Fleet (1984) found that 32 were able to grow at pH 3.0. There is certainly an interrelationship between pH, alcohol, and sulfur dioxide, which helps control spontaneous fermentations; however, they *do* occur.

In a recent *PW* survey of méthode champenoise producers both in this country and abroad, it was noted that 57% of the respondents 'sterile-filter' their wines prior to bottling. This involves either sterilizing pads or membranes. Such an activity transpires just prior to yeasting and tirage bottling. This is performed to lower the colloidal content as well as to prevent the growth of lactic acid bacteria in tirage. Lactic acid bacteria are microaerophilic and can easily grow under the pressure which is incurred during *prise de mousse*. Growth in the bottle causes an elevation in pH and a significant increase in the colloidal content (charged particles) rendering riddling difficult at best.

More to follow.

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112 pages. Topics: Pesticides and Fungicides in Vineyards; Herbicides and their Problems; Efficiency of Machine Application of Chemicals to Grapevines; Bunch rot of Grapes Caused by *Botrytis cinerea*; Grapevine Downy Mildew; Tissue Culture Screening of Chemicals; Soil-borne Fungal Diseases of Grapevines; Plant Growth Regulating Chemicals in Viticulture; Fermentation Implications of Chemicals in the Vineyard; Creosote–a Source of Contamination. Cost: A$25

These proceedings, in addition to four previously published (Grape Quality, Fermentation Technology, Coonawarra Viticulture, and Malolactic Fermentation) are available as a complete set for A$100. (Sea Mail) Add A$!$ for Air Mail. Individual Proceedings cost includes Sea Mail or add A$6 for Air Mail of each.

The Sixth Australian Wine Industry Technical Conference is being organized by the Society in conjunction with the Australian Wine Research Institute to be held in Adelaide, July 14-17, 1986. Contact the Institute for further details.

Two-Way Mobile Radios

While most involved in the winemaking industry are familiar with the use of two-way mobile radios for communications between supervisory and field personnel, many are not aware of other potential uses of radio in the vineyard or winery. For example, radio equipment can be used for remote control of irrigation and frost control systems, relay of information (such as air temperature or dew point) from vineyard to office and to allow for communications with personnel on production and bottling lines.

"Once the [two-way radio] system is in, you can't do without it," says Steve Soper, president of Water Dynamics Incorporated, St. Helena, CA. "Productivity really goes up." He notes that frequently an employee on a remote work site will call in for a specific part. Formerly, the employee would drive in to get the part. Now, it's easy to send the part along with another employee heading out that way, eliminating a lot of driving back and forth.

Richard Boer, vineyard manager of Napa Mountain Vineyards, Napa, CA, agrees: "It's a 1-hour drive down the hill into town and back. When additional parts or supplies are needed, the radio saves our parts runner hours of driving time. This allows operations to continue sooner and run more efficiently." Boer adds that this kind of communication also "saves time in the field. When a problem arises, it can often be solved over the radio."

Boer points out that the two-way radio system "works well as a link to our winemaking facility in Rutherford, several miles north of Napa, especially during crush when phone lines are often busy."

Charlie Williams, vineyard manager for Robert Mondavi Winery, Oakville, CA, corroborates this: "Shop personnel can respond to equipment problems in the field without the person having to drive all the way back in." He adds, "Vineyard staff can communicate with each other even when they're out in the field. Plus, the office can relay phone messages to them. With vineyards spread out between Carneros and Oakville, the system really helps us keep track of where people are."

Bernard Fernandez, Director of Vineyard Operations at Chateau St. Jean, Kenwood, CA, repeats Soper's words when he says, "I depend on two-way radios. I wouldn't know what to do without them." One of the greatest advantages, as Fernandez sees it, is that the radios offer better communication between the fields and the winemaker. "The radios help us schedule with the winemaker which loads will come in when. Also, if there are any problems with the grapes, we can call the winemaker from the field and correct the problem on the spot. It saves a lot of time running back and forth to the phone. Everything is a lot more efficient.

"Another good thing about having the radios," Fernandez continues, "is that we never lose anybody. If you need to know where somebody is, the two-way radio can help you find that person very quickly, which really helps when you need to make decisions in a hurry."

Ron Pierce, shop supervisor at Sonoma-Cutrer Vineyards, Inc., Windsor, CA, emphasizes the importance of two-way radios during potential frost spells: "When the temperature gets down to a certain point, you need to get the water on quickly to keep the grapes from freezing. During frost season, we use two-way radios more than at any time of year except harvest. The two-way radios help us to keep track of where people are so that quick decisions can be made when the temperature gets to a critical point."

A two-way radio system was installed at Beaulieu Vineyard, Rutherford, CA, in 1980, according to Tony Bell, Beaulieu's Director of Operations. "Since then," says Bell, "we've been able to better schedule all grapes going into the winery.

"We have an in-house viticulturist out in the field who keeps track of where the grapes are, which ones are coming into the winery when, and he relays this information to the winery. It helps avoid congestion at the winery and also enables us to maximize our equipment. The viticulturist can radio the winemaker with specific information about the quantity and quality aspects of each load of fruit, which allows more flexibility in keeping the better lots separate in the winery.

"The two-way radios have been a tremendous asset," concludes Bell. "I used to be enologist here, and prior to 1980, I spent considerable time during harvest driving back and forth relaying messages."

* * *

M.L. BRUNER COMPANY

Santa Rosa, CA

Products: Harris, Johnson, Kenwood, Midland, NEC, PacTel, Standard

M.L. Bruner Company has specialized in the design, installation and service of radio communications systems and equipment for over five decades. Founded by M. L. 'Bud' Bruner in 1928, the company was one of the first in the United States to become involved with the servicing of 'land-mobile' radios. As the mobile radio industry grew, the M.L. Bruner Company grew with it, expanding its in-house and field service capabilities. Ultimately, the company undertook the marketing and sales of radio communications products as a logical extension of its service business.

M.L. Bruner Company currently represents six major lines of land-mobile radio equipment including E.F. Johnson, Trio-Kenwood, Standard Communications, R.F. Harris, Midland and N.E.C., along with related accessory product lines. The breadth of products, combined with extensive systems design experience, gives the company the ability to 'customize' a communications system to fit the specific needs of the customer. As no two firms have exactly the same communications requirements, only in this manner can customers be assured of getting the system performance they demand.

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Company services, at its shop or in the field, the equipment it sells, as well as that of all major manufacturers. Low-cost extended service (post-warranty) contracts are available on most systems. Also offered is a no-cost evaluation of existing system capabilities and performance. System design, sales and service are available throughout Sonoma, Napa, Mendocino, Lake and Marin Counties.

"At Sonoma-Cutrer, we've had a service contract with Bruner for 10 years. They're very quick to take care of any problems that might come up. We've never had any problems waiting for them." —Ron Pierce, Shop Supervisor, Sonoma-Cutrer Vineyards, Inc., CA

Inquiries to: M.L. Bruner Co., 532 Mendocino Ave., Santa Rosa, CA 95401, phone: (707) 545-0914

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EMPIRE COMMUNICATIONS

Santa Rosa, CA

Products: General Electric, R.F. Harris, Johnson, Toshiba, Uniden

Empire Communications, Inc., is a manufacturer's representative and authorized service facility for over 20 major product lines including General Electric, R.F. Harris, Johnson, Toshiba, and Uniden. ECI's service personnel are also trained to service other brands such as Motorola, RCA, and Regency. ECI owns and maintains over 50 repeater relay stations located at more than 15 sites in a 200-mile radius of Santa Rosa, CA.

Empire Communications has recently completed installation of a new Johnson LTR logic 800 mhz trunking system on Cobb Mountain in Lake County, CA. This system enables radio users to more efficiently utilize the radio spectrum by sharing groups of channels and being able to automatically select the first available channel on a priority basis.

The trunking concept is not new but this system is new both to Empire Communications and other users in the north bay area. In addition to the Cobb Mtn. installation, ECI can provide trunked repeater service off Mt. St. Helena, Mt. Diablo, Mt. Tamalpais, Mt. Konocti, Sanel Mtn. near Hopland, the Oakland Hills, Loma Prieta in San Jose, and Mt. Vaca near Sacramento for the viticulture industry.

Telephone interconnection is also available utilizing the same radio to operate dispatch office-to-car, car-to-office, and car-to-car communications. Plus, by selecting a system, the radio will go into the automatic car telephone mode to place and receive calls at the same time. ECI's mobile telephone service will give coverage in the Napa Valley, Lake, and Sonoma Counties.

Telephone interconnection is also available utilizing the same radio to operate dispatch office-to-car, car-to-office, and car-to-car communications. Plus, by selecting a system, the radio will go into the automatic car telephone mode to place and receive calls at the same time. ECI's mobile telephone service will give coverage in the Napa Valley, Lake, and Sonoma Counties.

Synthesized (not using any crystals) programmable portable units are available for interface to these new systems, which consequently make the radio systems more flexible due to their programming ability. The advantages of trunking over conventional radio systems include complete channel privacy.

In the last 5 years, due to customer demand, ECI has created an interconnect division providing Toshiba electronic key telephone equipment for offices, ranches, etc. Telephone systems implementing interfacing technology with the two-way systems are offered exclusively by ECI.

"At Chateau St. Jean, we've had a General Electric two-way radio system from Empire for five or six years. Empire has always given us good service. They know that harvest is our most important time, and they get right on repairs if any are needed." —Bernard Fernandez, Director of Vineyard Operations, Chateau St. Jean, CA

Inquiries to: Empire Communications, 2120 Bluebell Dr., Santa Rosa, CA 95401, phone: (707) 545-8300

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MOTOROLA COMMUNICATIONS

Walnut Creek, CA

Products: Motorola

Motorola Communications has been involved in the land mobile radio field for over 50 years. Currently the company manufactures several two-way radio communication systems in addition to providing the service of these systems.

Motorola is now servicing the North Bay counties of Marin, Napa, Sonoma, Lake and Mendocino with a new 800 MHz trunked two-way radio system. Among these is the MOSTAR Trunked Mobile Radio, a self-enclosed dash mount unit with telephone capabilities. Also available with the trunked radio system are car telephone, mobile and portable products.

Motorola's INTRAC 2000 is an FM radio telemetry system designed to continuously monitor and control a variety of agricultural applications. Among these are remote units to send water level, flow, temperature, and pressure data to the INTRAC central station. A critical water system deviation signals an alarm within 80 milliseconds. The central station operator may then send a signal to the appropriate remote unit, alleviating the problem. INTRAC systems can also be programmed to respond to problems automatically.

INTRAC 2000 also provides radio alarm and control for fire and intrusion in storage areas and shops; environmental control systems to monitor temperature, humidity, and air circulation; and irrigation control systems to warn of a shutdown.

Motorola's EXPO Series Portable Radio has a three-piece design: a slide-in tranceiver, a one-piece environmental housing, and a quick disconnect battery. All materials have maximum corrosion resistance for use in adverse environments.

Other two-way mobile radios produced by Motorola include the MITREK radio, featuring solid-state reliability and integrated circuitry; and the HT90 portable radio, with polycarbonate housing to provide maximum protection even when exposed to harsh environments.

"Motorola has a great reputation and good service. Our radios are used primarily during harvest, and we need someone right there if they go down. The people at Motorola are very responsive." —Tony Bell, Director of Operations, Beaulieu Vineyard, CA

Inquiries to: Motorola Communications, 2775 Mitchell Dr., Ste. 121, Walnut Creek, CA 94598, phone: (415) 943-7707 or (800) 421-4463

SEE OUR AD PAGE 12

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Wineries Apply Old Concept—Caves

Rhoda Stewart

'Dusky are the avenues of wine...
Close the eyes, and go
Down the tendrilled avenues of wine and the otherworld.'
(D.H. Lawrence)

The perfect environment for barrel ageing of still wines, and *tirage* of sparkling wines, as most people in the wine industry know, is one that is dark, still and quiet, and has a temperature constant around 60° F and humidity between 95–100%. The most efficient and feasible way of establishing such an environment, as vintners have known for centuries, is by digging caves.

But in this century, when cheap electricity became available, and cheap labor scarce, above-ground air-conditioned ageing warehouses have been almost the only option considered by winemakers. Recently, however, soaring energy and maintenance costs, and the availability of an efficient mining machine from England, have motivated a few California winery owners with access to geologically suitable hillsides literally to return to the dark ages—by having caves bored for their wine ageing programs.

Caves have become a feasible alternative to air-conditioned above-ground warehouses in good part because of Alf Burtleson, a civil engineer and tunnel contractor for 21 years in Sebastopol, CA. With a burrowing monster from England called the Dosco Road Header Mark II-A, which was originally designed for coal mining in the Nottingham district, Burtleson and his crew of undergound workers can tunnel through most of the hillsides in Northern California at a rate of about 30 feet/day.

Electrically powered with two motors, this low-profile machine of many belts, chains, and moving parts has a huge spiked boring snout on the end of a long arm that moves in an arcing motion. Its point of contact is at least 20 feet from the operator's seat. When any crumbling or softness is identified, the arches can be sprayed with reinforcing 'shot-crete' before continuing.

A key element in cave design is the Gothic arch which provides stability and strength. "It must be cut just right or it won't last," says Burtleson. "My right-hand man, Dale Wondergem, is a tunneling specialist who can make the carbide bits chew to close specification."

The two main types of soil in the wine valleys of northern California are igneous rock known as Sonoma volcanic or 'tuff'; and Franciscan sedimentary. If both soils occur together, Burtleson says the Sonoma volcanic is always on top. Neither of these soils present a problem for the road-header. "The 'tuff' is soft when you dig into it, then it hardens like concrete on exposure to air," notes Burtleson.

The road header can also handle the rhyolite found in the knoll that Stan Anderson of S. Anderson Vineyards chose for his Yountville, CA, caves. Rhyolite is a partly crystalline feldspathic lava containing a little iron. This knoll contains the only rhyolite deposit in Napa Valley, according to Anderson. When the crew got solidly into it, they were slowed to four feet/day—slowed, but not stopped. The results are spectacular ruddy natural stone walls with very little 'shot-crete' required.

These caves, or tunnels, in contrast to the images the words may suggest, are far from being cobwebby, dank, claustrophobic burrows. Rather, they are spacious, clean galleries, with perfect arches for ceilings and walls slightly rounded, a very strong natural form. The caves of S. Anderson are especially striking. In addition to their stone walls, they have gothic instead of rounded arches. Eighteen feet tall at their peak and 18 feet across, the Anderson Vineyards caves take on a cathedral effect.

Aesthetics, however, is a fringe benefit. Three wineries who have recently had first-time caves bored (Carmenet Vineyards, Sonoma Valley; S. Anderson Vineyards and Rutherford Hill Winery, Napa Valley) give very practical reasons for choosing caves as a means of providing their wines with the ideal ageing environment.

Bill Jaeger, a Rutherford Hill partner, reports, "While the initial cost of under $30/sq foot was about the same as the cost of a three-level hillside warehouse, caves require very little maintenance, and only minimal electricity for lights.

"In addition, because of the natural humidity, barrel topping for red wines is reduced from four gal/barrel/year to 1½ gal/year (a savings of about a case/barrel/year). Empty barrels can be stored in caves for at least four months without drying out, as opposed to one month in an air-conditioned building."

Rutherford Hill's caves provide 33,000 square feet. 12 feet wide by 15 feet high, they hold 6,592 barrels on pallets (4 barrels/pallet, 4 pallets high). With the savings in electricity, maintenance, and barrel topping, Jaeger believes the caves will, in eight years or less, pay for their initial cost of $802,000. Jaeger is also pleased to have been able to get the ageing space he needed without in any way despoiling his beautiful hillside setting.

Stan and Carol Anderson, owners of S. Anderson Vineyards, chose caves perhaps more for their efficiency than for the economics. Anderson's wine production in 1985 consists of 7,000 cases of premium sparkling wines and 3,000 cases of Chardonnay table wine. The still dark, humid, uniform cave environment is recognized as the best for ageing sparkling wines.

Greg Fowler, winemaker at Schramsberg Champagne Cellars, says that the cave environment of a constant temperature (56° F) and darkness provides the perfect environment for bottle fermentation and ageing. Schramsberg, whose original caves date to the 1860s, in 1981 had Burtleson bore an additional 12,000 square feet of caves—room for 200,000 cases.

A secondary benefit of caves to winemakers of sparkling wines, a benefit just recently recognized, is that their still, uniform environment reduces riddling time. Yeast settles faster, and stays settled, in bottles riddled in caves. Dan Holm, Schramsberg production manager, has noticed that even the air movement caused by passing visitors stirs up the yeast enough to almost double the riddling time in bottles that are near visitors' routes.

But economics was, nonetheless, a crucial factor in the Andersons' decision. By choosing a cave, they didn't have to sacrifice any of their 50 acres of vineyard, and they would save between $600—$800/month in air-conditioning costs. The only monthly expense for the caves is a little gasoline to power the generator for electric lights.

Also, for their money, the Andersons wanted the best conditions for their wine that they could get. Stan admits that the $34/sq foot cost, which totaled $240,000 for their 7,000 square feet of caves, was a considerable expense for the size of his winery. "But what do you get for less?" asks Anderson. "Four walls and a ceiling. Then there's the energy cost to keep it cool, and the results are just not that good."

For their money, the Andersons got everything they wanted for their wine—plus aesthetics, which they feel is also of considerable value. The Anderson Vineyards caves were completed in January, 1984.

The economic consideration was not the chief reason Chalone Incorporated decided to have caves bored at its Carmenet Vineyards in the Mayacamas Mountains above Sonoma Valley. "We've wanted caves for years," said Jeff Baker, Carmenet general manager. "Caves provide the ideal ageing conditions for making great wines using traditional French winemaking methods.

"In addition, the alcohol level in wines aged in caves drops during the ageing period, and so grapes can be picked at the higher sugar level needed to develop the desired intensity of flavor. During ageing, the alcohol level in red wines will drop from 13.8 to 13% in 18 months; in whites, 0.3—0.4% in ten months."

With California grapes, whose sugar level often comes up in a rush in a September heat wave, this is indeed a plus—especially since there is a trend away from big wines.

Before hearing of Schramsberg's cave additions, Chalone Incorporated had plans for a buried building at Carmenet—at a cost of $120/sq foot. After talking to Burtleson, "We decided to go underground properly," says Baker. And at a considerably lower cost—$40-$45/sq ft, for a total of around $600,000 for 15,000 sq feet.

"For us, the fact that we got what we wanted at less cost than what we started to go with is just an added bonus," was how Baker summed it up. Carmenet Vineyard caves were completed in December, 1982; barrels were moved in the summer of 1983. Carmenet produces about 25,000 cases annually.

Both Carmenet Vineyards and S. Anderson Vineyards paid more per square foot for their caves than Rutherford Hill Winery because both these wineries barrel-ferment their white wine in their caves, and so had to provide additional drainage. Carmenet, in addition to barrel fermentation, also racks 20 barrels/day by hand, and cleans the barrels in the caves. "We wash the entire caves once a week," says Rob McBryde, assistant winemaker. "During fermentation, with 1,000 barrels bubbling in the fermentation tunnel, we wash there daily."

Carmenet's drainage system consists of a six-inch concrete slab floor set at 2% pitch. Beneath the floor, trench drains with fiberglass grates are set perpendicular to the caves every 18 feet. Also, in the fermentation tunnel are overhead fans, and 12- to 15-inch ducts under the floor—to help clear out the carbon dioxide and keep down hot spots that the fermentation produces. The $45/sq foot includes cost of plumbing and wiring.

Anderson's drainage system consists of a cobblestone floor set at 1% pitch over 2—6 inches of gravel. Under the center of each tunnel are two-inch slotted (schedule 80) PVC pipes set at a 2% pitch. "This system simply percolates the moisture away," says Anderson.

Dosco Road Header Mark II-A in S. Anderson caves. (photo by Mary Burtleson)

Although Rutherford Hill intends its caves to be primarily for ageing, Kellie Philbrick, assistant winemaker, reports that she did barrel-ferment several hundred barrels of Chardonnay in 1985. The wine was put into the barrels partially tank-fermented and filling the barrels at about 50 gallons prevented any problems with foaming over.

Asked how she ventilated the CO_2, Philbrick said they used one of the short 103-foot north caves, and that given the total size of the caves, those fermenting barrels did not create a problematic build-up of CO_2 (the two-inch slope of the floor also helped). Anderson has a large portable exhaust fan set on a pallet that he will use as necessary to ventilate the CO_2.

Impressed with the efficiency of its caves at Carmenet, Chalone Incorporated had caves drilled and blasted in its fractured granite hillside on the eastern side of Soledad, CA, for its Chalone Winery. Excavated in late 1984, the caves consist of two access tunnels each 25 feet long, and two main galleries—one 100 feet long, the other 50 feet long. The caves are 12–15 feet wide and 12 feet high, and provide 3,500 square feet.

Although at present the caves are used only to barrel age Pinot Noir, Chalone anticipates using them for barrel fermentation and racking, and so had them fitted with the same drainage system as at Carmenet.

But since nothing made by God nor man is perfect, there must be drawbacks even to caves. And there are—but precious few. Most of these are caused by the near-100% natural humidity. Mold grows readily in such high humidity—on the barrels, especially around wood bungs, and on the walls.

Fowler at Schramsberg notes that quality control and cleanliness is much more difficult in caves due to the high humidity (100%), mold, cobwebs, etc. Yet the riddling is quicker and easier, and its quality is much superior in tunnels. Thus, that part of the quality control operation is simpler.

Philbrick finds it necessary to use a mildewcide on the barrels, which is helpful, although not 100% effective, and intends to change over completely to silicon bungs. In the meantime, they have to scrub the bungs and nearby barrel surface before topping—a labor-intensive requirement.

Mold on their beautiful stone walls is the only problem the Andersons foresee in their caves. Nor have they yet decided what they will do about it.

Pyramid barrel stacks in Carmenet caves. (photo by Mary Burtleson)

At Carmenet, Baker does not see the mold as a problem. He has gone entirely to silicon bungs, and by keeping the barrels washed, sees no need to mildewcide them. As for mold on the walls, he wishes it would grow faster, in order to achieve more of the effect of the centuries-old limestone caves in Bordeaux.

The 100% humidity does cause a few problems at Carmenet, though. It rusts any non-galvanized or poorly galvanized metal; and in the summer, the concrete floors can become slick, since any incoming warm air runs along the floors, instantly condensing the moisture onto the cooler floors. This, he says, is mostly a management problem and can be controlled.

The rusting problem has also been felt at Schramsberg and Anderson. Fowler uses a 26mm stainless steel cap with long skirt with a cork and vinyl disk and Anderson uses laminated aluminum and steel caps for their bottle ageing of sparkling wines—a capping requirement they both report as easily met.

Excessive humidity is not yet a problem at Chalone. Rather, because of the extremely dry 1984-85 winter, the soil in the hillside is so dry that in order to maintain the needed near-100% humidity, workers have to hose the caves frequently.

In addition, the dry conditions have allowed the soil to become warm, creating an ambient temperature within the caves of 65° F or higher. Richard Graff, chairman of Chalone Incorporated, expects, with a winter of normal rainfall, that both the humidity and the temperature will stabilize at the more usual 95% and 60° F respectively.

Some winery owners interested in caves have expressed concern to Burtleson that to go with caves would mean changing their stacking methods. He is quick to point out that caves can be designed for almost any, if not all, stacking methods.

Anderson stacks his sparkling wines in bins, 36 cases to a bin; the bins are five-high—six at the peak of his 18-foot gothic arch. Rutherford Hill uses special fork-lift pallets four high for barrel storage. Schramsberg prefers bottle-to-bottle ageing; barrels are in pyramid-stacks of three high for whites and second-year reds, and 1 ½ high for first-year reds at Carmenet.

Nor does Burtleson envision any geological sites that his road-header and crew cannot handle. At Rutherford Hill, he struck a water course formed by the interface of Sonoma volcanic over Franciscan sedimentary, and so re-designed the layout of the caves somewhat.

But Burtleson does not see water as a problem. What to do in the event he hits water depends on the owner and how humid he wants the caves. Caves in wet hillsides require more 'shot-crete' lining than caves in dry ones. This is the main difference, according to Burtleson. (Rutherford Hill's are completely lined; the others required only spots here and there.)

All the caves, he says, are bone-dry when he is finished with them. However, drips can develop some months after the caves are finished. Winery owners usually do not mind unless the drips land on a barrel or turn into a small stream. Should either of these conditions develop, Burtleson returns to put a 'shot-crete' lining over the offending water.

Burtleson recently had to line over just such a small stream in Rutherford Hill's cave near where the water course was struck. First, he affixed a small drainage pipe across the cave ceiling and down the wall; then he sprayed 'shot-crete' over the pipe, concealing it. According to Philbrick, that seems to have completely taken care of the stream.

If Burtleson were to offer any advice to present or future cave owners, it would be to provide some form of ventilation in all caves. Once the wine is moved in, the natural evaporation combined with the natural humidity of the caves creates excessive moisture. All the caves are built with two accesses to every tunnel.

Burtleson feels that if ventilating screens and covers were installed in the doors, these screens could be opened at night, permitting air circulation that would help carry off excess humidity—without causing the temperature to fluctuate.

He also recommends going with several shorter tunnels, rather than with a few long ones. This, he feels, would help in the arrangement of barrel lots, and would make the barrels more accessible for topping.

'The avenues of wine these days are indeed becoming dusky.'
D.H. Lawrence would approve.

Proprietary Wine Survey

PW continues its survey of proprietary wines on a regular basis. The survey examines ways in which wineries are successfully marketing proprietary wines and includes descriptions of the wines.

Edmeades Vineyards

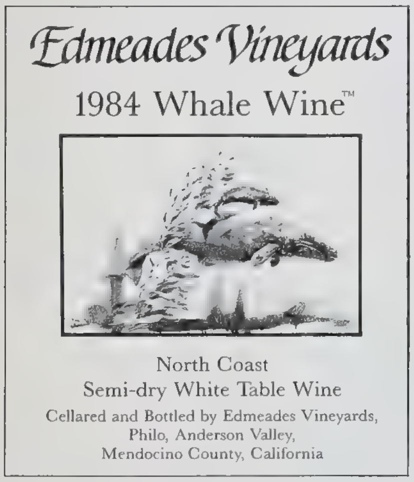
Philo, Anderson Valley, Mendocino County, California

51% of Edmeades' annual production is sold under the following proprietary labels, which accompany varietal releases of Cabernet Sauvignon, Gewrztraminer, Chardonnay, Pinot Noir and Zinfandel. Proprietary releases are available at the winery, in restaurants, and in retail outlets at a suggested retail price of $4.95. Each label has a side panel describing the wine. Two of Edmeades' proprietary wines, Rain Wine and Whale Wine, are distinguished by artists' renderings of the wines' namesakes.

OPAL, a 'blush' wine made from Pinot noir, is named for its color, reminiscent of hues found in the depths of the Mexican fire opal. OPAL's production began in 1976 with 500 cases and is up to 3,000 cases today. Residual sugar ranges from 0.6–0.7 g/100ml.

Rain Wine, a blend of White Riesling, French Colombard, and Pinot noir, is named for the most ample annual rainfall of all California viticultural regions: 44 inches is a typical average, with the record high at 92 inches (1979), and a record low of 12 inches (1977). The initial quantity produced in 1975 was 800 cases; today, production stands at 3,500 cases. Residual sugar is 1.5 g/100ml.

Whale Wine honors the whales that migrate between the Bering Sea and Mexico along the Mendocino coast near the winery. Various paintings of whales have been used on the label. The first, entitled 'Whales Mating', was originally rejected by the BATF on grounds of obscenity. Deron Edmeades resubmitted the label, which was then accepted—by a different inspector. Edmeades Vineyards commits part of the proceeds from Whale Wine to various individuals and organizations who are dedicated to the research and preservation of marine life. Past blends have included Grey Riesling. Production doubled in 1983 to 3,000 cases.



Edmeades Vineyards

1984 Whale Wine™

North Coast

Semi-dry White Table Wine

Cellared and Bottled by Edmeades Vineyards,
Philo, Anderson Valley,
Mendocino County, California

Whale Wine

Alcohol: 10.5–11.5%

Total Acidity: 0.65–0.72 g/100ml

Residual Sugar: 0.6–0.7 g/100ml

Grapes: French Colombard, White Riesling, Pinot noir

Quantity Produced: 1984–3,000 cases

Granite Springs Winery

Somerset, California

Granite Springs Winery's location in the Sierra Foothills was the inspiration for Sierra Gold and Sierra Red. Produced since 1983, the wines are found in the winery's tasting room, retail outlets, and restaurants, where they are usually poured as house wines. Both wines have a suggested retail price of $4.00. There is no descriptive label on either wine, although a breakdown of varietal percentages may be added to future labels of Sierra Gold, as the blend may change from year to year. Sierra Red is 100% Zinfandel. The 1984 Sierra Gold blend is 50% Sauvignon blanc, 50% Chenin blanc, but the 1985 blend is 75% Sauvignon blanc, 25% Chenin blanc. This will enable the winery to put 'Sauvignon Blanc' on the label in order to create greater market acceptance.

Sierra Gold and Sierra Red accompany varietal bottlings of Cabernet Sauvignon, Petite Sirah, Zinfandel, Chenin Blanc, Sauvignon Blanc, and White Zinfandel.

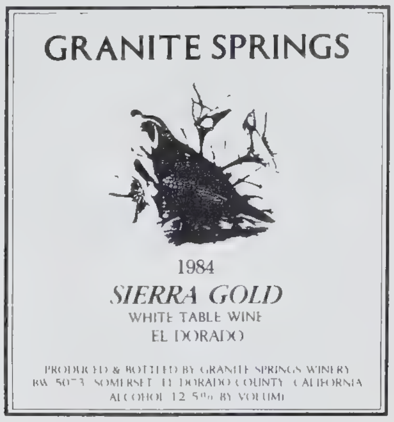
Sierra Gold

Alcohol: 12.0–13.0%

Total Acidity: 0.60–0.75 g/100ml

Residual Sugar: 0.60–0.70 g/100ml

Quantity Produced: 2,000 cases



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Joseph Phelps Vineyards

St. Helena, Napa Valley, California

Thinking the reserve concept had been overworked, Phelps looked for a fresh approach to hallmark a distinctive blend of several vineyards' grapes. The proprietary name 'Insignia' provided a way to bypass the 100% varietal concept being considered by BATF when the label was created.

Insignia has been produced since 1974, and is available at the tasting room, retail outlets, and restaurants, where it is classified as Cabernet Sauvignon or Private Reserve. There is no side or back label describing the wine, as the percentages of each varietal in the blend change every year, depending on harvest quality. (Percentages are printed on the front of the label.) Production has increased from 473 cases in 1974 to 1,400 cases in 1981, the current release.

1981 Insignia

Alcohol: 13.0%

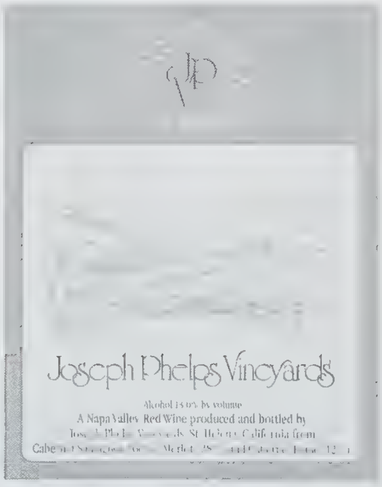
Total Acidity: 0.60 g/100ml

Residual Sugar: dry

Grapes: Cabernet Sauvignon, Merlot, Cabernet franc

Quantity Produced: 1,400 cases

Suggested Retail Price: $25



Joseph Phelps Vineyards

A Napa Valley Red Wine produced and bottled by

PW reviewed the following wineries in previous issues:

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Pat Paulsen Winery
Trefethen Vineyards
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